The Erasmus Wilson Lectures
ON
THE PATHOLOGY AND DISEASES OF THE THYROID GLAND.

Delivered at the Royal College of Surgeons of England on Feb. 18th, 20th, and 22nd, 1901.

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LECTURE I.

Delivered on Feb. 18th.

MR. PRESIDENT AND GENTLEMEN,—The subject of the lectures which the Council has done me the honour to elect me to give is the Pathology and Diseases of the Thyroid Gland. The subject is not new to this theatre, for in 1891 Mr. James Berry selected the pathology, diagnosis, and surgical treatment of goitre for the Hunterian lectures which he gave that year, but in the 10 years which have since elapsed considerable progress has been made in our knowledge of the physiology of the thyroid gland, and it is therefore convenient to reconsider our views as to the nature of its diseases, and more especially of Graves's disease, in the light of these advances.

The thyroid gland consists mainly of closed vesicles lined with epithelial cells which secrete the colloid; it may here be remarked that the normal vesicles are in shape round or square (in some conditions they become branched and stellate), that the secreting cells are cubical (in some conditions they become columnar), and that the colloid readily stains with the usual microscopic agents (in some conditions it does not stain). It may be added that the nerves to the thyroid have been traced into close proximity to, but not actually into, the secreting cells. Besides the thyroid proper there are certain small glands named "parathyroids." Recent researches have shown these to be of much importance in the organism; indeed, their excision generally causes the death of the animal. These glands were no doubt observed from time to time by various anatomists, but the first full account of them was written by Sandström of Sweden in 1880. In this country they were independently described by Cresswell Baber in a paper published in the Philosophical Transactions of the Royal Society in 1881. The parathyroid glands differ from the thyroid gland proper in that they consist wholly of cells and contain no vesicles and no colloid, or at most a minute droplet (Fig. 1 and Fig. 2).

It is not easy to identify the parathyroid glands in the human subject because some of the minute outlying nodules are found to consist of ordinary thyroid tissue and to be therefore accessory thyroid glands; only those that consist exclusively or mainly of cells are to be regarded as parathyroid glands. The anatomy of the parathyroid gland in man has been worked out by Dr. D. A. Welsh of Edinburgh. He finds that there are four of these glands—one anterior and inferior to, one posterior and superior to, each thyroid lobe. The parathyroid glands are said to differ from the thyroid gland proper in another way—developmentally; they develop in advance of the thyroid lobes.

We can study the physiology of the thyroid gland by operations for its removal in whole, in part, or in successive parts; also by the administration of preparations from the thyroid gland or from the parathyroid glands.

The earliest experiments on excision of the thyroid gland were made by Sir Astley Cooper as long ago as 1824.

In 1844 Sir John Simon made an important contribution to the subject. He proceeded by the very Hunterian method of studying the comparative anatomy of the organ, and embodied his results in a monograph on the thyroid gland in vertebrata which was published in the Philosophical Transactions. He came to the conclusion that the thyroid gland is intimately concerned in the nutrition of the central nervous system and in the regulation of the circulation to the brain. It is interesting to note that these views, arrived at more than half a century ago mainly through comparative anatomy, have recently received confirmation from the experimental methods of to-day.

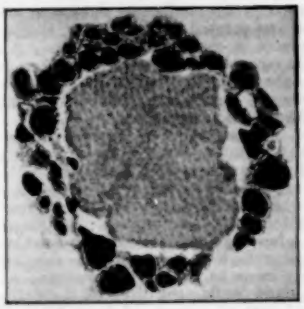
In 1856 and 1857 Schiff made a series of experiments. He showed clearly the fatal results that usually follow the complete excision of the thyroid gland in dogs and cats. But not much attention was paid to the subject till 1882 and 1883,

FIG. 1.

Normal parathyroid gland of the dog. A small part of the adjacent thyroid gland proper is shown and can be recognised by its vesicles containing colloid. In the dog the parathyroid gland lies on the surface of the thyroid gland. (× 50.)

when Reverdin and Kocher respectively reported cases of excision of the goitrous thyroid gland in the human subject which was followed by serious, and in some cases fatal, results. Schiff now repeated his experiments, and he has been followed by numerous observers. The subject, however,

FIG. 2.



Normal parathyroid gland of the monkey. The parathyroid gland is completely surrounded by the thyroid gland proper.

has proved rather complicated, as the results apparently differed in different kinds of animals.

Sir Astley Cooper's experiments were made on the dog, and it will be convenient in the first place to consider

the now well-established results which follow the complete extirpation of the thyroid gland and the parathyroid glands in the dog. The symptoms commence generally about 48 hours after the operation. One of the first symptoms noticed, probably the first if the animal is closely observed, is a fibrillar twitching of the muscles; this can be seen, and it can also be distinctly felt by placing the hand on the dog. Within a day or two this is often followed by a severe attack of general convulsions; the animal lies down—in fact, it cannot stand—as its limbs are in a state of spastic paralysis; further, its respirations are hurried, rising to 200 a minute or more. Also during the attack its temperature is raised, sometimes as much as several degrees. These attacks last for an hour more or less and completely pass off, so that the next day the animal appears to be itself again. The convulsive attacks may recur and in a day or two other symptoms may appear; the dog becomes much less lively—in fact, quite listless. Its hair falls out and a peculiarity is noticed in its gait; also it has a difficulty in maintaining its equilibrium, especially when turning round. Later a rigidity is noticed in its limbs, and before long its hind legs may become completely paralysed; trophic symptoms may come on, such as ulcers on the skin, also a conjunctivitis followed by a keratitis leading to destruction of the eye. It may be added that the urine sometimes contains albumin and more rarely sugar; also that between the convulsive attacks the temperature is subnormal. Finally the animal dies on about the fifth day, but death may occur at any time between the second and the eleventh day, or even later.

There is one other point which, considering its bearing on Graves's disease, ought not to be overlooked, and that is whether there is any alteration in the prominence of the eyes. It is much affected; the palpebral fissures become narrower and the eyes less prominent.

The great majority of the dogs submitted to total thyroidectomy die, but a small percentage recover; this result seems to be common to nearly all observers, and cannot therefore be explained away by error of experiment. We must conclude that even in dogs and cats total excision of the thyroid gland and of the parathyroid glands is not necessarily a fatal procedure, while in other less extensive operations we must be prepared for an absence of absolutely conclusive results.

Now, although the operation was followed in dogs and cats with so great a mortality it was found to produce no effect whatever in rabbits. It was soon shown, however, by Gley that the contradiction was only apparent, for he found that two of the parathyroid glands in rabbits lie separate from the thyroid gland proper, and consequently escape removal when the thyroid gland is excised. Gley found that when these were also removed the rabbit, as a rule, died.

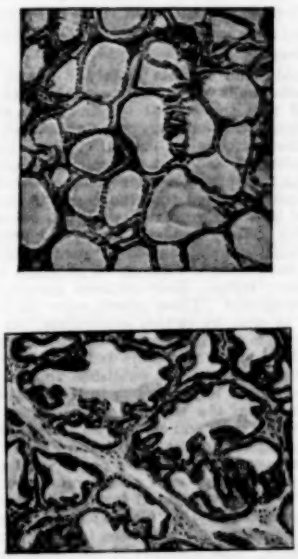
In monkeys total excision of the thyroid gland produces symptoms similar to those seen in dogs. The majority of monkeys thus operated on have tremors and convulsions and also passing paresis of the limbs. They have, too, œdema under the eyelids, and occasionally well-marked swellings there. Finally, the monkeys nearly always die, many with acute nerve symptoms similar to those seen in dogs; others have, as was first pointed out by Horsley, symptoms identical with myxœdema in man. The hair falls out and swelling occurs in the face which is especially marked under the eyelids. In monkeys, too, enophthalmos and narrowing of the palpebral fissures occur, but exceptionally widening of the palpebral fissures may be seen.

The fatal termination in dogs cannot, as a rule, be prevented by thyroid gland feeding or by the subcutaneous injection of thyroid extract. The conclusions which I arrived at from some experiments on this point were that the symptoms were somewhat modified, the attacks of convulsions with rapid breathing being less frequent; that death occurred on an average a few days later than in untreated cases; and that the small percentage of recoveries was somewhat increased. Cunningham came to similar conclusions: he found that by thyroid gland feeding the lives of thyroidless dogs could be prolonged from an average of from 52 to 54 hours to an average of from eight to 12 days. It has been thought that the lives of the animals might be saved by grafting into them the excised thyroid lobes, and with this view a lobe has been returned to the site from which it has just been excised or it has been placed in the abdomen. The result, however, in most cases at least, has been that the grafted lobe has simply been absorbed (that certainly has been the result in my experiments on this point) and the dog has died. This treatment, however, is not absolutely without effect, for during the process of absorption the lobe acts as thyroid gland food and the course of the ailment is slightly modified accordingly. In monkeys, too, thyroid gland feeding, although it modifies and prolongs the course of the disease, fails as a rule to save the life of the animal. Such, then, are the results of total excision.

If in a dog one lobe of the thyroid gland, together with its two parathyroid glands, is excised, leaving the opposite lobe with its two parathyroid glands, no obvious effect is produced on the dog; and if the remaining lobe and its parathyroid glands are subsequently removed the dog dies, and this occurs no matter what the interval between the two operations may have been; similarly with piecemeal excision, the dog dies after the removal of one of the later pieces.

Although no symptoms occur in a dog as a consequence of the removal of one lobe of the thyroid gland important changes occur in the lobe which is left; as was pointed out by Wagner, it hypertrophies. The microscopical changes were first described by Horsley; the vesicles enlarge and become branched, the cubical secreting cells become columnar, and the colloid disappears and is replaced by a mucous secretion which takes the staining reagents badly (Fig. 3, Fig. 4, Fig. 5, and Fig. 6).

FIG. 3 AND FIG. 4.



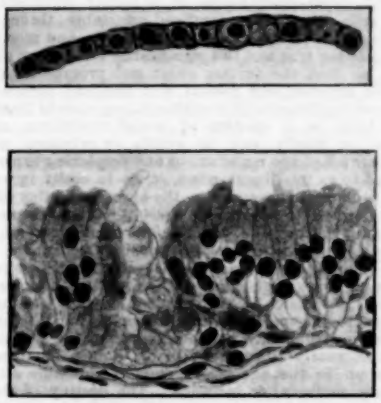
The upper figure shows the normal thyroid gland of the dog. The lower figure shows a portion of the thyroid gland left *in situ* for 41 days after the whole of one lobe and nearly the whole of the other lobe of the thyroid gland had been excised, leaving only one parathyroid gland and a small portion of thyroid gland proper. The vesicles are enlarged and their lining membrane is folded. The colloid has nearly disappeared. The drawings are to the same scale. (× 90.)

Whether there is any difference in the physiological action of normal colloid and that of the secretion in compensating hypertrophy we do not yet know, but it is a point worth investigating. In order to ascertain to what extent the symptoms produced by total excision are due to the excision of the thyroid gland proper and to what extent to excision of the parathyroid glands it is necessary to excise them separately. In dogs if one parathyroid gland be dissected free from the thyroid lobe, taking care not to interfere with its blood-supply, and be left in the animal, and the rest of the thyroid gland on that side be excised and also the whole of the thyroid gland with its two parathyroid glands on the opposite side, so that only one parathyroid gland be left in the animal, the dog will live and no obvious effects will ensue; such, at least, is the usual result. If the parathyroid

gland is subsequently excised the dog will die with the usual acute symptoms. The parathyroid glands that are left in these experiments show signs of more active growth than the normal, but they do not develop into thyroid tissue proper. No vesicles form. This it will be noticed, tells against the view that was once held, that the parathyroid glands are undeveloped thyroid tissue.

In rabbits the excision of the thyroid lobes with the two attached parathyroid glands, leaving *in situ* the two other parathyroid glands, produces, as already stated, no immediate effect; but if the animals are kept for several months the

FIG. 5 AND FIG. 6.



The upper figure shows the normal secreting cells lining the vesicles of a dog's thyroid gland. The lower drawing shows the same cells from a small portion of the thyroid gland which had been left together with a parathyroid gland 132 days after the greater portion of the thyroid gland had been excised. The drawings are to the same scale (× 600).

following symptoms may arise. In four experiments I noticed (1) failure of health, (2) hair falling out, and (3) a swelling of the lower part of the face, presumably myxœdematous in nature. Dr. G. R. Murray of Newcastle has also observed myxœdematous changes coming on late in rabbits which have been deprived of their thyroid glands proper. With respect to the condition of the eyes in these animals which have been deprived of their thyroid glands proper, in dogs I have not noticed, as a rule, any change; but in one dog still under observation there have recently come on symptoms—tremors and spastic gait—and for months past it has been noticed that the eyes have appeared sunken and the palpebral fissures narrower; these symptoms are getting worse. In rabbits a series of experiments were made especially to test this point, the result was that there was found a marked tendency for the eyes to become narrow; if eventually the animals died from thyroid symptoms the eyes became very narrow.

MEMORIAL HOSPITAL COT.—Dr. W. F. Clarke, as trustee of the estate of the late Mr. James Ewen Maddilove, has forwarded to the treasurer of the City Orthopædic Hospital, Hatton-garden, London, £1000 to endow a cot in memory of Mr. Maddilove's daughter.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—On May 1st, in fulfilment of a promise given some few months ago to the Duchess of Beaufort, Earl Roberts visited Bristol for the purpose of opening a bazaar held in Colston Hall on behalf of the funds of the Royal Hospital for Sick Children and Women. Earl Roberts, who was received with great enthusiasm, in the course of his speech alluded to the fact that for some years past the annual expenses of the hospital had exceeded the income by £1300, and that at the present time there remained a deficit balance of £3000. The bazaar, which lasted for four days, was most successful, and it is thought that a substantial sum has been raised for the hospital.

An Address
ON
THE IMPORTANCE OF THE TEACHING OF INSANITY TO THE MEDICAL STUDENT AND PRACTITIONER IN RELATION TO THE PREVENTION OF INSANITY.

Delivered before the South Eastern Division of the Medico-Psychological Association on April 24th, 1901,

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GENTLEMEN,—I venture to take for my subject the teaching of insanity in a somewhat wider sense than that for the medical student only; in part because of the increased public interest which the subject has caused through enormous expenditure necessitated in housing and accommodating the victims of this disease; in part, also, from the loss to the community through the permanent disablement and consequent unproductiveness of those who fail to recover from it. Acres of print are blown on to us daily from the four winds, and some apology may be needed for pinioning these thoughts in manuscript and placing them before you. Mine shall be this—that as we are all members of a great association to which this subject in all its bearings is and ever must be a matter of the very greatest concern I may be permitted to claim your attention upon an aspect which may tend very materially to modify its extension. Such, I take it, is the aspiration of our hearts and the exertion of our hands.

This association, which was established in 1841, can look back upon 60 years' record of lively and unbroken interest in the welfare of the insane. It has ever assisted efforts made for the amelioration of those suffering from this most melancholy and grievous of human afflictions. Its prosperity is in no small measure due to the manner in which its council has adhered to the objects for which the association was established—viz., "the promotion and cultivation of science in relation to mental disorder, the improvement of the treatment of the insane, and the maintenance of the honour and interests of the medical profession generally." How the "medical profession generally" is to become conversant with this particular branch of medicine is the subject of this paper. All of us are agreed that the commencement must be in the proper training of the medical student and many of us recall the difficulties which accompanied our own early efforts in the proper comprehension of this subject.

Within a few years of the foundation of the association a general revival grew up in matters medical. In 1855 an arts examination became necessary as a preliminary to a medical career, for which credit is due to the Society of Apothecaries. In 1858 the Medical Act was passed creating a system of registration and bringing into existence the General Medical Council. Since this year—recognising that the fundamental pathological conception of disease is biological—an infinite addition of subjects favouring in the main the appreciation of natural science has been made to the students' curriculum, and this has greatly influenced not only the intellectual status but also the social standing of the profession. It was not until 1893, however, that the General Medical Council made it compulsory for the student to attend a special course of instruction in mental diseases. Some of our teachers in the medical schools still consider a proper study of this subject to be subsidiary and only likely to distract the student from what they believe to be more urgent and more important departments. I shall endeavour to give reasons why the study of mental diseases is in itself important by pointing out the bearing upon, and the utility of, this subject to the varied duties of a medical practitioner, and finally to suggest methods for its fuller and more complete apprehension.

To-day there are no less than 30,000 medical men (and women) in Great Britain and Ireland out of a population of

over 40,000,000 Of this total there are nearly 145,000 persons (in England 108,000, in Scotland 16,000, and in Ireland 21,000) who are insane under more than 150,000 certificates, giving an average of one insane person to every 266 (or at the outside to every 300) persons of the population, or five certificates to every member of our profession. It is, moreover, asserted that for every certified insane person there is probably another who is either suffering from a threatened attack or who may be harmless and yet insane, and as to whose security and safety, either in his own home or in a special hospital, his medical attendant is expected to give the best advice.

The certificate referred to contains two propositions—one that the individual is of unsound mind, the other that he is unfit to be trusted with his liberty. Of these the second has a practical importance which it is difficult to over-estimate, for it not only dispossesses the individual of his liberty, but it also disfranchises him, deprives him of the control of his own affairs, alters his position to his friends and his responsibility to the law, and of necessity by disturbing his social relations causes the greatest distress to his relatives. In addition to this it causes in the present state of public opinion a stigma to attach to himself and all his connexions. He is practically incarcerated until he himself shows that he is entitled to his restoration. It is not surprising, therefore, that the law imposes upon the medical man a certain responsibility for this duty by enacting that "any person who makes a wilful mis-statement of any material fact in any medical or other certificate or in any statement or report of bodily or mental condition under this Act shall be guilty of a misdemeanour." As to the statements in certificates, it has been pointed out that there are singularities and eccentricities which do not constitute the minor degrees of insanity, and it has been asked if suspicions and conspiracies are in their nature necessarily insane? May not suspicions be reasonable or just? Is the world so pure and honest that persons never conspire against the prosperity of individuals? Can antipathy for those who were formerly loved be sufficient ground for incarceration? Are the acquaintanceships and friendships of sane men like the laws of the Medes and Persians? Are there no natural and reasonable changes from kindly feelings to animosity depending upon the sensibility of the individual? Where is the line between that excess which is, and that which is not, decisive of insanity? Are the facts assigned the result, as they should be, of a careful examination and a direct inquiry into the person's present conduct as compared with, and illustrated by, his demeanour and conduct through his previous life, or are they merely inferences? Realising this importance the law requires that one of the certificates shall, whenever practicable, be under the hand of the patient's usual medical attendant who is supposed to be conversant with his ethical standard and would be sooner able to notice and apprehend any change in his mental reaction, and the reasons for changes in his conduct. Failing this the petitioner (53 Vict., cap. 5, sec. 31) has to state the reason for the omission or the certificate is invalid. It should never be *inferred* as a necessary consequence to singularity of mood and manner, or to delusions and unsoundness of mind, that the individual is a "proper person to be taken charge of and detained under care and treatment," but it should, as stated, be made the subject of direct inquiry and investigation. We are not concerned here as to what constitutes insanity, but Dr. Johnson probably lighted on the truth when he said that "madness frequently discovers itself merely by unnecessary deviation from the usual modes of the world."

Nor is certification the only or the greatest responsibility of the medical man, for as the confidential family adviser his opinion is sought for as to professions and careers. He is eagerly consulted by anxious parents as to the development or retardation of certain faculties in childhood and youth—their application and relation to certain modes of study, education, training, and business. He is expected to use his knowledge to interpret the origin and growth of these faculties under varying hygienic conditions, so that influences which may be hurtful shall be avoided and the organism—that organic whole—shall grow up into healthy maturity. He has placed before him the mental hygiene not only of individuals but also of families and their relation to society. It is his duty to see that the health of the community does not fall below the standard of efficiency, as is the inevitable tendency in the inhabitants of large cities where overcrowding fosters and favours the three great determinants of insanity—viz., syphilis, drink, and unsuitable marriages—and where also a vicious circle of other social evils is established which eventually requires the strong hand of the earnest reformer to eradicate. It is also his duty to educate the rank and file of the population by inspiring them with a sense of their corporate responsibility in regard to the baneful influence of these evils upon the health and well-being of the community. Knowing that preventive medicine has long since passed from empirical rules to an art based upon physiological discoveries, he has to bring an educated medical knowledge to bear upon the customs of our civilisation, so that brains which had a tendency to disease by inheritance should not be subjected to undue pressure—realising the fell effects of "stress" upon the hyper-sensitiveness of a highly organised brain whose cells have been rendered unstable through the selective action on them of a special toxin, and recognising at all times the true and full significance of the first signs of danger, so that the further onset and progress of disease might be arrested, and mental and physical surroundings be secured consistent with evolution along normal lines. He should thus be a student of social conditions, able to interpret, to clarify, and to utilise by whatever method science can adopt the multifarious and perplexing experiences presented to an intelligent mind, so as to assist in working out the problems of nature for the higher evolution of man, bearing in mind that progress consists in the advancement of humanity from the less to the more perfect—from homogeneity to heterogeneity—causing "manners to be milder, habits to be more social, institutions more just and liberal, knowledge more diffused, beliefs more reasonable, and life easier." The medical adviser is consulted, again, as to engagements and marriage, and that this is a serious question may be gathered from the fact that the insanity of nearly 10 per cent. of all women admitted into asylums up to the age of 45 years is referable either to pregnancy, delivery, or lactation. The destiny of the race does not enter into the consideration of matrimonial alliances as it should, and the education of women in the present day—upon whom the happiness of the home depends—tends to emphasise the pleasures of life rather than the happiness of duty. It is the work of the medical adviser to alter this and he should be a man of parts, accustomed to actual contact with men and matters, and to the comprehension of what things *mean*, how they *consist*, and why one event follows another. He should be able to give an opinion based upon an acquaintance with that biological law according to which all beings endowed with life tend to repeat the elements and functions of their organism in their descendants—a law which governs the subordinate no less than the dominant characteristics, and which involves internal and external structures with their physiological and psychological consequences. Again, the medical adviser may be consulted as to civil and testamentary capacity, and he may be called upon to decide questions of criminal responsibility. Crime is in many cases traceable to degeneration and to physical conditions similar to those associated with insanity, and these may co-exist or be combined in an infinite variety of proportions. In the study of mental pathology various physical abnormalities are frequently found, and although the measurements of individuals may give rise to great variations in every race there are some tangible differences by which the broader divisions can be distinguished, and we can find, at all events, that certain characteristics prevail in one and certain others in a different race. Anthropology will prove of value in determining the nature and amount of the resemblances and differences in the physical characters of the various groups into which the human species is divided, thereby throwing light upon their history and their origin and the relation they bear to one another. Such measurements as the cranial capacity, the cephalic (latitudinal or breadth) index—as giving the dolicho-, mesati-, and brachycephalic skulls; the altitudinal, alveolar, nasal, and orbital indices—all these furnish the basis of classification in craniometry, and should be familiar to the advanced student. As to responsibility, on the other hand, it incurs liability to authority and legal punishment, and before the question of criminal responsibility is decided the origin of moral distinctions, the freedom of the will, and the nature of conscience present themselves for consideration and discussion, for which an acquaintance with the disciplinary sciences, psychology, ethics, logic, and metaphysics, may prove at least serviceable if not necessary.

The medical adviser is also confronted with grave mental symptoms arising in the course of bodily diseases and these may require home treatment without the option of special hospital assistance. Obviously, therefore, there exists a considerable amount of brain disease involving abnormal mental conditions with which it is obligatory upon the medical practitioner to be conversant in all its phases. This, confessedly the most difficult branch of medicine, must be approached in precisely the same manner as any other—physiology must precede pathology, experiment and induction must verify hypothesis. The normal mind must be observed and studied before the abnormal can be understood, and the study is one which tends to develop the reflective and perceptive habits and helps to make the student quick to apprehend reasons for changes of conduct and so to bring himself into more complete harmony with his patient.

Furthermore, one of the chief reasons why the medical student should be familiar with this study is that insanity is best and most successfully treated in its early stages, and its recognition in this stage becomes, therefore, most important. The disease is more likely to be fatal in direct proportion to the delay which has taken place before commencing treatment—in other words, the earlier that cases of mental disorder come under treatment the higher is the percentage of recovery, and the chances of recovery diminish considerably and progressively as the time before commencing treatment increases in duration. The successful treatment of insanity means attacking the disease in its incipient stages—the stages of abstraction, reverie, pupillary changes, insomnia, and capricious appetite. By observing these, calamities may often be averted, grave scandal prevented, and the innocent saved from ruin. I have referred to the ban of society upon insanity. Similarly in remote times was the view held as to surgery and obstetric medicine, but we can scarcely hope to remove this so entirely as has been done in other departments. Insanity in ancient days was viewed as a disease of our moral constitution, based doubtless upon the fact that the disease may—as in the case of "stress"—be due to psychic causes. The mind does very directly affect the body. The perusal of a letter or the sudden communication of bad news may strike the stoutest to the ground and render the broken heart something more than a metaphor. Fear can paralyse the limbs, hope can instantaneously give soundness and vigour to the frame as much as despair can render it lean and tottering. A word, the sight of a person, will crimson the cheek. In the presence of a materialistic philosophy we are in some fear of disregarding this aspect of causation. Aided by discoveries in physical and chemical methods, by the great progress of physiology and histology, we tend to believe, through accurate observation and accurate recording, that insanity is exclusively a bodily disease. Gross mental decadence is certainly associated with great neuronal changes. In dementia very obvious atrophic changes in the nerve-cell and marked destruction of nerve-fibre plexuses are found. Analogy, therefore, supports the belief that the so-called functional and hysterical conditions may be correlated with slight neuronal changes, and it is within the limits of possibility that these may be initiated by mental causes. On the other hand, the organism is not an individual but a "social mechanism," it is a collective being and each of its single parts must be understood as a factor of existence. The life of an organism is the sum of the lives of the single cells, and it is only intelligible by the life of each part. Cells are composed of granules of organic chemical substances which are not themselves alive, but the mechanical arrangement of which determines the direction and arrangement of their activity. These granules, which form the working units of the cells, are—viewed from the materialistic side—probably storehouses of energy, the breaking up of which is accompanied by a liberation of energy as possibly manifested in delirium. Indeed, it has been observed and recorded that nuclear degeneration within the nerve-cell is peculiarly associated with certain states of motorial and mental instability.

As to the *materies morbi* in mental diseases we are probably upon the threshold of important discoveries. Physiological chemistry reveals substances in the animal body which are capable of affecting unfavourably the somatic and neural cells, and we are able to separate the effects of these toxic agents according as to whether or not the symptoms which accompany the morphological changes induced in these cells are specific and tangible, and therefore pathogenic. As to this great question of toxicity we know that all living organisms both in health and disease are manufacturing toxins—"toxicity" being a term which has come to signify the various alterations of nutrition from the normal standard—and we know also that these may be neutralised by antitoxins which, whether they are toxoid or of the nature of a proteid molecule, enable the organism by means of these immunising substances to resist the invasion and to stop the growth of a deleterious disease otherwise fatal to it, possibly by the linking-on of toxin to proteid bodies and the formation of "anti-bodies." The toxins generated within the system by excessive production or imperfect excretion give rise to symptoms of auto-intoxication which can in many bodily diseases, such as gout, rheumatism, dropsy, influenza, pneumonia, and typhoid fever, be separately identified. Possibly toxins due to altered or varying assimilation may be at the root of the different temperaments and the elements of personality may be thus explained. "The fathers of medicine" may have been more correct as to the explanation of diathesis by humoral variations than it is our wont to believe. We now know that the brain, like other tissues and organs, is composed of cells and their derivatives, and it probably reacts similarly to the influence of organisms and agencies, but it is only by minute microscopic and chemical investigation that the essential nature of disease, whether of the brain or other organs, can be ascertained. The grey mantle of the cerebral cortex has long been recognised as the sole organ of mind, affecting and dominating all the tissues of the body, controlling their functions and regulating their energies. It occupies the "supreme rôle" in the nervous hierarchy. It is here that the "tissue of the mind" lies and it is here, also, that the activities work which underlie conscious states. This grey envelope merits study, for it receives the terminal extensions of all in-going channels from the outer world and forms the origin of all out-going currents to the outer world.

I have now shown how important is the study of brain functions and mental disorders and how this is a subject which concerns the jurist, the sociologist, the biologist, the priest, and the politician. I have referred to and enumerated the various ancillary sciences which assist its complete apprehension. As, however, for the student the number of subjects is extensive and the number of facts to be acquired appalling and as he is already almost overpowered by his load, we must be content with less of the disciplinary requirements than should otherwise be exacted and insist somewhat upon the simplification of learning, urging only those portions which are eminently practical, remedial, and to the point, so that the mind should be trained in accurate and methodical observation to seek for truth in her many masqueradings. The student should be fully conversant with neurological methods and have a technical knowledge of those made especially clear to him in the histological course. Further in the separate course upon pathology he should be trained in the preparation of specimens and the methods of staining morbid tissues more especially in relation to changes in the normal secretions—what may be called clinical microscopy. He should receive a more practical instruction in the use of physiological instruments and be accustomed to the ordinary manipulation methods of blood examination, pressure instruments, and chemical analyses. His medical training should include especially ophthalmology and the application of medical electricity. As complete a knowledge of psychology or mental physiology as the present state of the science admits is strongly urged by means of a systematic course of instruction upon the normal processes of the mind. The senses being the ordinary avenues of experience must be understood and their action and reaction explained by the modern methods of psycho-physics with especial reference to the laws of stimulation. Terms should be explained and defined and such mental activities as apperception, memory, belief, attention, reasoning, will, judgment, and imagination fully entered into, so that their abnormalities—illusions, hallucinations, delusions, obsessions, systematised beliefs, and other anomalies of the will—may be more fully appreciated. Owing to the metaphysical aspect of ethics this branch may be left to the more advanced student. The great end in view being the early recognition and the practical treatment of cases which students are likely to meet with in general practice, great stress should be laid upon clinical instruction. The different forms of insanity should be described in a systematic course of lectures and each such lecture should be alternated by describing and showing typical

cases in the hospital or the asylum. The student should be encouraged to come into actual contact with cases by signing certificates of cases already under treatment, such as those who would come up for re-certification, and he should also be brought in to watch the treatment—medical and moral—of actual cases. He should be present at the post-mortem examinations and have typical pathological demonstrations made to him. The whole of the course should be interrupted by occasional oral and written examinations personally and in class.

I would further suggest that the conjoint colleges and the new London University—following in the line of our own association—should inaugurate a diploma in mental diseases similar in scope to that in public health and that all medical officers of asylums and hospitals for the insane, and those attached to licensed houses, should be encouraged to take it, until eventually it would become a recognised and necessary qualification to hold office—as is the diploma referred to for medical officers of health. The fact that at the present time there are about 1000 appointments in this branch of medicine in the United Kingdom, from that of Lunacy Commissioner downwards, should imply an honourable obligation that the holders of these offices should themselves be equipped with as full a knowledge of this subject as can be comprised in the general technique of neurological methods, psycho-physics, and the special philosophical disciplines of logic, psychology, and ethics, together with a complete systematic and clinical knowledge of insanity and the enactments bearing upon it.

One word as to the unifying of knowledge which is presented to our experience. The philosophical thinker who reflects upon the meaning of life—and we all do so in our different ways—attempts to arrive at his conclusions in a reasoned and comprehensive way. He attempts to get at the vital and essential meaning of the world in its entirety and not exclusively in reference to the laws of a certain group of facts. He dwells (1) upon the importance of conduct; (2) upon the nature of the external world; and (3) upon the existence of super-sensitive realities. Far be it from me to suggest that the expert in mental diseases should attach undue importance to the abstract aspect of this subject, but I think that if the actual values of our experiences could be harmonised and united certain questions must of necessity present themselves, such as the origin of knowledge, the basal reality which gives us the unity between mind and matter, and the purposive or mechanical relationship which these bear to the laws which govern the material world. Such considerations may help to give us the unity we seek and present to us a more simple system by which life as a whole and the conception of things can be appreciated.

Finally, as to the further prevention of insanity, I would venture to hope that every public asylum in the country should become a school for a post-graduate course of teaching, affiliated if possible to a general hospital, where not only the undergraduate could receive practical instruction by offering them clinical clerkships and other posts, but also where any qualified medical practitioner could refresh his knowledge of the subject in all its bearings through one or other of the medical officers and to whom by means of an introduction from the local medical practitioner, or a member of the visiting committee, any applicant suffering from premonitory symptoms of incipient insanity could apply for advice. This, or a modification thereof, has been inaugurated for some years at the West Riding Asylum, Wakefield, and recently at the Dorchester Asylum, and in certain general hospitals, more particularly in London, the experiment has proved eminently satisfactory. The London County Council and other public authorities have now the opportunity of supplementing university training and rivalling the enterprising action of the Edinburgh Corporation who, by their enlightened and beneficent scheme inaugurated in the past the great extra-mural school of medicine which has now become the school of the Royal Colleges of Physicians and Surgeons. Their action would tend to improve the teaching of this subject, which beyond all others inspires terror and causes a sense of helplessness; it would also tend to the stimulation and endowment of chairs in the new University of London, and thus promote the public weal by encouraging the rich to contribute to their own freedom from disease, as well as assist those who could not avail themselves of the best advice. As the aim of our profession, which can claim to be altruistic above all others, is to render growth more perfect, decay less rapid, life more vigorous, and death more remote, he who, with hope as his watchword, succeeds, to whatever degree, in modifying this dreaded affliction, will not only have added to the alleviation of human suffering, but also have conferred material benefit upon those who are to come. He will have raised a monument to his fame far more durable than one of brass or marble, whose tablet shall be the heart of man and the letters thereon engraven by the tears of gratitude.

LOCAL *v.* GENERAL ANÆSTHESIA IN CERTAIN CASES OF ABDOMINAL SURGERY.

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THE subject of shock after operations and how to prevent it has often engaged my attention and I have wondered how much of the shock should be attributed to the operation itself and how much to the anæsthetic. Shock varies in proportion to the skill of the administrator and is often dependent upon the duration of the operation, and hence upon the amount of the anæsthetic which is inhaled. I have also observed that when abdominal sections have been performed with local anæsthetics little or no shock has followed. The causes of shock are especially twofold—viz., the anæsthetic and the extent of injury to nerve-structures produced by the operation.

I wish to consider this subject for the following reason. There are some patients whose condition of extreme exhaustion is such that the additional shock of general anæsthesia will just take away their only chance of life. Most of these are refused operation. The cases which I refer to are those of acute peritonitis, internal hæmorrhage, and intestinal obstruction. In the last class there is an additional special danger in all cases of stercoraceous vomiting; when ether or chloroform are given it is very likely that while the patient is unconscious some of the fæcal matter will be regurgitated from the stomach and sucked into the air-passages. Now all of these are cases for operation with a local anæsthetic. They are all desperate cases in which the patients if left to themselves will nearly all die, but many can be saved by a dexterous operation if performed without general anæsthesia. I cannot better illustrate this subject than by quoting a few cases.

CASE 1. *Puerperal peritonitis.*—A primipara, aged 19 years, whom I saw with Mr. E. W. Everett on the fifth day after labour, was suffering from acute peritonitis. The abdomen was generally distended so that respiration was rapid and impeded, vomiting was frequent, and the pulse was extremely feeble (about 160 per minute) and only to be counted with difficulty. All the other distressing symptoms which usually accompany this condition were also present. Evidently neither ether nor chloroform could be borne. Mr. Everett injected six grains of eucaine under the skin in the middle line between the umbilicus and the pubes, and after waiting a few minutes I made an incision in the same place. No pain was caused by this. As rapidly as possible a large quantity of thin purulent fluid was washed out of the abdomen. No shock followed; in fact, the pulse was much improved, all the symptoms were relieved, and during the next few days her condition changed from one of impending death to one of apparent convalescence. I regret, however, to say that she did not recover, but died from sepsis somewhat suddenly at the end of a week.

CASE 2. *Ruptured tubal pregnancy.*—A woman, aged 27 years, whom I saw with Mr. T. A. Alexander at Watton, had been married for seven weeks and had menstruated only a fortnight before. She was suddenly seized with violent abdominal pain, followed by all the signs of internal hæmorrhage. There was extreme pallor of the face, the gums, and the lips, and the pulse could only imperfectly be felt, and could not be counted for 15 hours preceding the operation. The patient was most profoundly collapsed. Mr. Alexander at once saw the necessity for operation, but at the same time he considered that no anæsthetic could safely be given. Accordingly it was decided to open the abdomen under a local anæsthetic. Water was freely administered by the mouth and per rectum.

Mr. Alexander used anestile to freeze the skin in the middle line below the umbilicus, and I then made an incision about three inches long, at the same time asking the patient if she felt anything. She replied that she did not; neither was any pain caused by cutting through the remainder of the abdominal wall. I found that the hand could be gently introduced into the abdomen without pain for the purpose of removing blood-clots, of which the whole cavity was full. The only painful part of the proceeding was that of dragging on the broad ligament for the purpose of pulling the ovary and tube up into the wound in order to ligature and remove them. The tube contained a pregnancy close to its uterine end not larger than a hazel-nut which was probably of less than a fortnight's duration. The abdomen was washed out as quickly as possible, several pints of warm water being purposely left inside, and the wound was closed without drainage. The pulse began to improve and could be counted directly after operation (160 per minute). No shock was caused and no part of the whole proceeding appeared to be very painful. In a few days the pulse had regained its volume and the patient, after much care from Mr. Alexander, completely recovered.

CASE 3. *Ruptured tubal pregnancy.*—A woman, aged 27 years, whom I saw with Dr. C. B. T. Musgrave and Mr. H. C. Dent at Cromer, arrived at that town by an excursion train from London in a very exhausted condition with all the signs of internal hæmorrhage. She was blanched and almost pulseless, and, in fact, in such a feeble state that no general anæsthetic could be given. The diagnosis of ruptured tubal pregnancy was made and it was decided to perform abdominal section. Mr. Dent froze the skin between the umbilicus and the pubes with anestile, Dr. Musgrave assisting. An incision was made three inches long without causing the patient to show any sign of pain; immediately the peritoneum was opened black blood escaped in considerable quantity. The right broad ligament contained a mass of about the size of a bantam's egg attached by recent adhesions to the surrounding structures. I found that pain was caused by dragging upon the broad ligament, but not by ligaturing it—in fact, I found that the patient complained more of pain from the heat of the water (110° F.) than from all the rest of the manipulations. Having removed the pregnant tube and the ovary the blood was washed out with a large quantity of hot water, several pints of the latter being purposely left in the abdomen, and the wound was closed without drainage. The patient's recovery was complete and was chiefly due to the unremitting care and attention that she received in the Cromer Hospital.

CASE 4. *Intestinal obstruction.*—A man, aged 61 years, whom I saw with Dr. F. L. Pochin at Fakenham, upon whom it was decided to perform inguinal colotomy, was refused a general anæsthetic because, although the pulse was a fair one, he had stercoraceous vomiting. Eucaine was injected and after a few minutes the skin was frozen with ether spray. I then made an incision three inches long, very little pain being experienced while this was being done, and although the muscles twitched more than is usual with a general anæsthetic the man made no complaint on their being cut. The introduction of Paul's tube into the bowel was also painless. The operation was followed by no shock and the small amount of pain which was caused was easily borne, but the relief given was only temporary and the patient died about a week later.

CASE 5. *Strangulated hernia.*—A woman, aged 67 years, whom I saw with Mr. G. E. Deacon of Hethersett, was suffering from strangulated femoral hernia of 34 hours' duration. General anæsthesia was decided against on account of the vomiting and because there was a double aortic murmur. The skin over the hernia was frozen with ethyl chloride and the operation was accomplished with very little pain. There was no shock and recovery was uninterrupted.

As a contrast to the above cases I relate another case of intestinal obstruction which well illustrates the danger which I have alluded to when the stomach contains fæcal matter, as it did at the time of operation.

CASE 6.—A woman, aged 42 years, who was the subject of umbilical hernia, had had signs of incomplete obstruction lasting for nearly a week, the neighbourhood of the umbilicus being the chief seat of pain. The diagnosis was made that there was some adhesion causing partial obstruction connected with the old hernia. Ether was administered, the abdomen was opened, and a band was found adherent to the intestine and to the abdominal wall in such a way as to cause contraction of the calibre of the bowel. The band was divided and the obstruction was relieved, but while the abdominal wound was being sutured regurgitation of fæcal matter took place from the stomach and a small quantity of it was sucked into the air-passages. The patient immediately became cyanosed, and although she soon after regained consciousness and could speak yet she was unable completely to expectorate the fæcal matter and she remained in the same condition, breathing with difficulty, for four hours, when she died. This operation was quite a short one and would not have been painful if performed with a local anæsthetic.

I hope by the above cases to draw attention to the fact that life can be saved by operation even in desperate cases if general anæsthesia is avoided; it is also probable that pain is less acutely felt when the patient is *in extremis*.

Norwich.

THE ETIOLOGY AND TREATMENT OF CONVERGENT SQUINT.[1]

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I HAVE not been able to go through all my squint case-books in time for this paper, but my conclusions are drawn from the notes of 1278 of these cases. I shall endeavour to confine myself to facts based upon the experience of these cases and to avoid anything of the nature of theory or opinion.

The indifference often shown by laymen about squint in their children is very remarkable, yet when these children grow up, often with a hideous deformity only partially hidden by spectacles and usually with more or less blindness of the deviating eye, the patients or their parents would do almost anything if a cure could then be effected. There are few things more distressing than to have case after case presented for the first time only when irretrievable damage has been done by delay. There are two popular ideas to which this delay is often due. First, it is thought that the chil d may "grow out of the squint." In some rare cases the deformity does disappear spontaneously, but even in these cases the sight of the deviating eye is often much impaired, and binocular vision is very imperfectly acquired, if at all. Secondly, it is thought that if the child is treated for squint he will have to wear glasses always. The exact opposite is the case. A very large proportion of squinters, *if brought early* and treated in the manner which I am about to describe, will, before the age of puberty, be able to lay aside their glasses entirely, or perhaps to use them only for close work. Whereas, if no attempt be made to train the fusion faculty until the child is, perhaps, six years old, binocular vision, even if it be subsequently acquired, will be of such a feeble kind that it will never be able to withstand the strain of uncorrected hypermetropia.

The limited time at my disposal forbids my giving reasons for everything that I may say, so that, if my remarks seem dogmatic and contrary to generally accepted views, I hope that you will believe that I make no statement which I have not thoroughly investigated and proved for myself.

BINOCULAR VISION.

The fields of vision of the two eyes overlap everywhere except for about 40 degrees on the temporal side of each eye. When a distant object engages our attention the two eyes are brought into such a position that a picture of the object is formed simultaneously on the central part of each retina. Similarly all other distant objects, within the limits of overlapping of the visual fields, are focussed on *functionally* (not necessarily mathematically) corresponding points of each retina. The impressions thus received from the two eyes are blended in the brain so that we are conscious only of one single picture. This psychical blending of the two sets of impressions is called "binocular vision."

The fusion faculty is the potential faculty of binocular vision. For instance, a patient who has a convergent squint of 30 or 40 degrees may, during the continuance of the squint, have his fusion faculty trained and developed by

[1] A paper read before the Hunterian Society on April 24th, 1901.

means of the amblyoscope. This squinting patient ordinarily, of course, has not actual binocular vision, only a trained fusion faculty. But, while this patient is looking into the amblyoscope, and also after the cure of the deviation, the fusion faculty finds its expression in the act of binocular vision. In many cases a trained fusion faculty is in itself sufficient to cure the deviation. The fusion faculty is the key to the whole subject of the etiology and rational treatment of convergent squint. A patient may be highly hypermetropic and astigmatic and congenitally amblyopic, but if the fusion faculty is well developed it is extremely unlikely that he will ever squint. Conversely, in the case of a child who already squints, if the fusion faculty be trained *early*, in the manner which I am about to describe, the tendency of the case thenceforth is strongly towards cure. But to get this potent quality of binocular vision orthoptic training must be carried out early, not much later than five years of age, at a time when the development of the fusion faculty should normally be taking place. In investigations which I made with lights, prisms, &c., on healthy children in two large crèches I found the first distinct evidence of binocular vision at the age of six or seven months. The results of orthoptic treatment in young squinters seem to show that the fusion faculty normally reaches its full development by the end of the sixth year.

CONVERGENT SQUINT.

In most of the text-books squint is defined somewhat as follows: "Squint consists in a deviation of the visual axis of one of the eyes from the correct position of fixation" (Fuchs). The authors have mistaken a single symptom for the whole disease. One might as well describe spinal caries as "a deviation of the spine from its normal shape." In a case of squint there is, in addition to (1) the deformity, (2) a defective development of the fusion faculty, (3) nearly always a suppression of the vision of the deviating eye, (4) in the great majority of cases more or less amblyopia of the deviating eye, and (5) refractive error. A mere remedying of the deformity of squint cannot therefore be claimed as a cure. We should aim at establishing binocular vision.

Even a monolateral squint is really a binocular affection. For instance, when we say that a certain patient squints with the right eye, what we really mean is that there is an abnormal convergence of both visual axes, but that the left being the better eye this eye is required to look straight ahead. In order to effect this both eyes make a conjugate movement to the left, so that while the left eye looks straight ahead the deviation of the right eye is doubled.

It is especially important to remember that squint is not a muscular affection. I find the power of independent outward rotation of each eye separately quite normal in 83·2 per cent. of my cases. In 9 per cent. there was some defect of abduction of each eye, and in only 7·7 per cent. was there any defect of outward movement confined to the deviating eye.

The deviation of a constant squint consists in an abnormality of the converging mechanism, whereby the zero of convergence becomes some cross-eyed position, instead of parallelism, of the visual axes. Dynamic convergence can take place within the zero, but divergence beyond the zero is only possible to a very limited extent. When one eye is better than the other it becomes the fixing eye and the squint is monolateral. When both are of equal value the squint is frequently alternating.

Squints are commonly divided into: (1) occasional; (2) constant monolateral; and (3) alternating.

1. *Occasional squints.*—These, which are sometimes incorrectly called "periodic" squints, arrange themselves into two distinct groups which we may call (*a*) true occasional squints, and (*b*) premonitory occasional squints. True occasional squints occur under all sorts of conditions. Some patients squint only in near vision, some on looking down, some under the influence of any strong emotion some without any evident exciting cause. In many cases there is considerable refractive error, the optical correction of which usually, but not always, relieves the condition. I have notes of a few cases (which may properly be called periodic) in which the squint has manifested itself every alternate day as regularly as a tertian ague. As a rule, the vision is good in both eyes. The majority of patients, but not all, have some slight degree of binocular vision when the squint is not manifest. When the deviation is present there is diplopia in some cases in others the vision of the deviating eye is temporarily suppressed. A true occasional squint may disappear spontaneously or it may maintain its character unchanged throughout life. Cases of the second group, premonitory occasional squints, are simply the precursors of constant monolateral squints. Premonitory occasional squints become constant after lasting usually from two to six months. During the occasional stage optical correction will in the majority of cases, but not by any means in all, prevent this change and cure the squint.

2. *Constant monolateral squints.*—In constant monolateral squints the deviation is constantly present and is always manifested by the same eye, though the angle may vary.

3. *Alternating squints.*—Alternating squints are those in which, though there is always an abnormal convergence of the visual axes, the patient is able to fix, and to maintain fixation, with either eye at will without covering the other. Alternating squints suffer much less than monolateral squints from neglect or inefficient treatment, because each eye is used in turn. But it is far more difficult to get a perfect cure in a case of alternating squint. The reason is not far to seek. In a case of alternating squint the visual acuity is usually good in each eye, the refraction of each eye is usually very nearly the same, and in many cases there is little or no refractive error. If such a pair of eyes become dissociated it means that the fusion faculty is in a very rudimentary condition. As a matter of fact, in these cases it sometimes appears to be congenitally absent, so that training with the amblyoscope, even as early as at three and a half or four years of age, fails to develop even the lowest grade of binocular vision. Of all constant squints about 89 per cent. are monolateral and 11 per cent. are alternating.

The age at which the deviation first appears.—Of the 1278 cases under consideration I was able to make out with some approach to accuracy the age at which the deviation first appeared in 809 cases:—Before one year of age, 102 cases, or about 12½ per cent.; between one year and two years, 142 cases, or about 17½ per cent.; between two and three years, 195 cases, or about 24½ per cent.; between three and four years, 159 cases, or about 19½ per cent.; between four and five years, 91 cases, or about 11 per cent.; between five and six years, 58 cases, or about 7 per cent.; and after six years of age, 62 cases, or about 7½ per cent. It will thus be seen that in 74 per cent. of the cases the deviation appeared before the end of the fourth year and in only 7½ per cent. was its appearance delayed until after the end of the sixth year.

At the first appearance of a monolateral squint there is often a considerable degree of congenital amblyopia in the deviating eye, and occasionally in the other eye also. But the deviating eye *always* at first has the power of fixing when the other eye is covered. If the case is left to take its own course, or if the child receives merely the usual routine treatment with glasses, in the great majority of cases the deviating eye becomes blinder—there is an amblyopia from disuse superadded to any congenital amblyopia which may be present. In a considerable proportion of the cases, after a time the deviating eye loses the power of central fixation. Its visual acuity is then reduced to the counting of fingers. This loss of central fixation is especially prone to occur in young squinters. So much so that there is a widespread belief, even among ophthalmic surgeons, that an eye which deviates during the first 12 months of life is necessarily very blind. Yet this is not the case. Of the cases which I saw within six months of the first appearance of the deviation I do not find the young squinters especially amblyopic. It is true that in about 30 per cent. of constant monolateral squints treated by glasses alone the eyes eventually become "straight," but in the majority even of these cases considerable damage is done before this result is attained.

The spurious squint of infants.—During the first few months of life, when the muscular and visual coördinations of the eyes are in a very rudimentary condition, it often happens that the eyes momentarily converge or diverge in response to some gastric or other disturbance. This is of no importance. If, however, the deviation lasts several minutes, or if one eye deviates while the other steadily fixes some object, and more especially if the deviation is always exhibited by the same eye, the case is one of true squint and demands treatment without delay.

ETIOLOGY.

The one essential cause of squint is a defective development of the fusion faculty. This is frequently associated

with other developmental defects, such as an abnormal shortness of the eyeball (hypermetropia) and congenital amblyopia. Hypermetropia, anisometropia, and congenital amblyopia may any or all be present, but with a normal fusion faculty there will be no squint. Or the fusion faculty may alone be defective or even congenitally absent, in which case there is usually an alternating squint with perfect vision in each eye.

A hypermetrope, to see distinctly, must use his accommodation, even in distant vision. Normally an effort of accommodation has associated with it a convergence of the visual axes. In this way hypermetropia causes a *tendency* to abnormal convergence, but is not in itself sufficient to cause squint. If, however, the fusion faculty be defective the patient is ready to squint on slight provocation. The abnormal hypermetropia often associated with a defective fusion faculty may supply this provocation. Or the immediate exciting cause may be a sudden fright, a blow on the head, or, commonest of all, the violent straining of whooping-cough. How these upset the equilibrium of the converging mechanism I do not know, but they are powerless in the presence of a normal fusion faculty. I have been fortunate enough to see several children, who have begun to squint later than usual, within a few days of the commencement of the deviation. In many of these cases I have examined the fusion faculty with the amblyoscope and have always found it ill-developed.

CASE 1.—A boy, aged five years and two months, was brought to me at the West Ham Hospital. He had a monolateral squint which first appeared six days before. I examined his fusion faculty which I found very defective. I got the mother to bring three other children who did not squint. In two of these children the fusion faculty was normal; in the other, a boy, aged four years and one month, it was very poorly developed. I told the mother that this child would very likely squint; 11 weeks afterwards he was brought to me with an alternating squint, which appeared after a severe scald from trying to drink from the spout of a teapot. I have since been able to examine a younger child in the same family and, having found the fusion faculty normal, I have ventured to promise the mother that this last child will never squint.

Congenital amblyopia and anisometropia predispose to squint by lessening the value of binocular vision. Heredity is a very strong predisposing cause of squint. In the 1278 cases under consideration I was able to get some family history in 1028 cases. Of these there was a history of squint in father, mother, brother, or sister of the patient in no less than 527 cases, or about 51 per cent.

TREATMENT.

In the treatment of convergent squint four objects should be kept constantly in view: (1) to prevent the loss of central fixation in the deviating eye; (2) to prevent deterioration of vision of the deviating eye; (3) to train the fusion faculty at the earliest possible age; and (4) to restore the visual axes to their normal relative directions.

Take first the case of an infant with a constant squint. After measuring the angle of the squint and ascertaining the refraction by retinoscopy under atropine, glasses, fully correcting the hypermetropia and astigmatism, are ordered, if possible, to be worn constantly. The age at which glasses will be tolerated depends to a certain extent upon the disposition of the child, but chiefly upon the degree of refractive error. A child whose hypermetropia and astigmatism combined amount to 4 D or 5 D will usually wear glasses well as soon as he is able to crawl. It then becomes chiefly a question of the skill of the optician in fitting the frames. At the Royal London Ophthalmic Hospital (Moorfields) I have sent Mr. Hawes many children under 12 months of age, and he has always managed to make frames which will stick on. Of course these young children sometimes break their glasses, but I have never known a case in which the eye has been injured.

Next, in order to exercise the deviating eye, and so to prevent deterioration of vision or loss of the power of fixation in this eye, I order one drop of liquor atropinæ to be put every morning *in the "straight" eye only* to abolish its power of accommodation. The child will then continue to use the (atropised) fixing eye for distant vision. But in looking at anything close at hand he quickly learns to use the squinting eye in which the power of accommodation is not interfered with. In this way amblyopia from disuse is avoided and central fixation is preserved in the deviating eye. The drop every morning in the fixing eye only is used for the first 14 days in each month till the deviation is cured or the child is old enough for exercises with the amblyoscope. Of course, covering up the better eye for four hours or so every day would do as well, but very few parents will take the trouble to do this for years at a time, to say nothing of the inconvenience to the patient. A common practice with many surgeons, and one invariably recommended in books, is to order atropine for *both* eyes for months at a time, for squinters who are supposed to be too young for glasses. This is wrong in principle and worse than useless in its results. Atropine never brings about a permanent cure of the squint, but in some cases it causes a temporary cessation of the deviation. These last are just the cases in which a pair of glasses, given early, would be likely to effect a cure. Moreover, the deviating eye is usually the more hypermetropic, so that to paralyse its accommodation with atropine is the very way to insure that this eye shall never under any circumstances be used.

Next, consider a neglected case in which acquired amblyopia or even loss of central fixation in the deviating eye has been allowed to occur. Usually not much improvement can be got when the damage has once been done. One often, however, sees a slight improvement in the vision of the deviating eye after the shade or atropine has been used for the fixing eye for some time. Now and then one gets a considerable improvement. When central fixation has been recently lost in the deviating eye, if this eye wanders without taking up any definite position of false fixation, continuous occlusion of the better eye for two or three weeks will sometimes restore its fixation power. If, however, the deviating eye takes up a definite position of false fixation the case is quite hopeless.

CASE 2.—A boy, aged six years, whose right eyeball had been ruptured by the end of a gas-pipe, was brought to me. The eye had to be excised. The left eye had squinted inwards since the age of two years, and fixation was lost. It is now four and a half years since the accident to the good eye and the enforced use of the amblyopic eye during this period has produced no improvement. He can only count fingers at a distance of eight feet.

Of cases which are treated by glasses alone in about 30 per cent. the deformity eventually disappears. But even in these cases the deviating eye often becomes very blind in the interval. And even in the cases in which some sort of binocular vision is picked up *à la grâce de Dieu* it is usually of such a feeble kind that glasses must be worn throughout life for fear of a return of the deviation. So that optical correction, though a most useful auxiliary, is very unsatisfactory as the sole means of treatment.

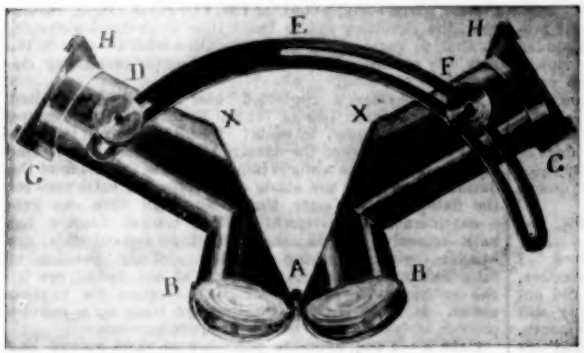
The rational method of treatment is to endeavour to remove the cause of the squint by training the fusion faculty at an age when binocular vision should normally be developing. There are three great difficulties in the way of fusion training in these young children: (1) the vision of the deviating eye is "suppressed," so that although the sight of this eye may be perfect the patient is unable to use it except when the other eye is covered; (2) the angle of the squint is usually so great that even if there were no suppression both eyes could not at the same time look into an ordinary stereoscope; and (3) these young children will only submit to the treatment so long as they find it interesting.

In 1895 I made the tin instrument which I show you tonight. The other instruments shown are brass copies of the original made for me by Mr. Hawes of 79, Leadenhall-street, London, E C. I have called it "Amblyoscope"—an instrument by means of which an amblyopic eye is trained to take its share in vision (Fig. 1). The instrument consists of two halves joined by a hinge at A, in the diagram. Each half consists of a very short tube joined to a longer tube at an angle of 120 degrees. At A X is an oval mirror. At G H in each tube, is placed a small glass object-slide. At A B is a lens, the focal length of which equals the distance of the reflected image of G H. In addition to these lenses there are slots at A B into which other lenses from the trial case may be put, to correct the refractive error of the patient. The two halves of the instrument can be brought together to suit a convergence of the visual axes up to 60 degrees or separated to suit a divergence of as much as 30 degrees. The pairs of object-slides are drawn on translucent paper stuck on glass slips. These are of three classes. The first class consists of pairs of devices such as a clown and a hoop, a mouse and a trap, &c. These require no blending of images but only

simultaneous vision. The second class consists of devices, part of which are on each slide, so that a blending of the images must take place in order that the full picture may be seen. The third class consists of stereoscopic pictures which, when combined, give an impression of the third dimension.

The methods of vision-testing and of investigating and training the fusion sense in young children I have gone into much more fully in a paper read before the Ophthalmological Society of the United Kingdom, so I shall only refer to it very briefly now. Take as an example a young child whose deviating eye has not much less than one-fourth the visual acuity of the fixing eye. I take the child on my knee and

FIG. 1.



The Amblyoscope.

adapt the amblyoscope roughly to the angle of his convergence. The instrument is then held before the child's eyes and an electric lamp is put in the axis of each tube about four feet away. By a simple mechanical arrangement each lamp is easily brought nearer to, or put further away from, the tube which it illuminates (ordinary paraffin lamps will do just as well). A slide showing a hoop, for instance, is put in the tube before the child's fixing eye and a clown in that before the squinting eye, and the child is told what to look for. At first he sees only the hoop. The lamp before the fixing eye is then taken further away, and that before the squinting eye is brought nearer until the child sees the clown. By this time he has lost sight of the hoop. The intensities of the illuminations are then readjusted until the child sees both the clown and the hoop. The child is then allowed to grasp the instrument and, assisted by the hands of the surgeon, is taught to vary the angle of the instrument so as to make the clown go in and out of the hoop. Many other similar pairs of slides are then shown. An ordinary child of three and a half or four years of age takes a very keen interest in this game which he imagines to have been invented merely for his amusement. Devices which require a true blending of the images are then shown. After a time it is often found that the angle of the instrument may be altered to a very considerable extent, either in convergence or divergence, while the eyes follow the objects and maintain fusion of the pictures. Often one gets a very powerful "desire" for binocular vision in these young subjects with surprising facility. The next step is to equalise the intensities of the lights. This may usually be done at this stage without a return of the suppression. In many cases one is able to diverge the two halves of the amblyoscope more and more at each visit till the deviation disappears entirely. In other cases operation may be necessary. If, then, the eyes are put approximately "straight" the desire for fusion will fill up any slight gap that may remain. However the actual remedying of the deviation be effected, if the child has this powerful "desire" for fusion (which can only be acquired in early childhood) a perfect cure of the squint results. The child will then in most cases be able after a time to lay aside his glasses except for reading.

The special points of the amblyoscope are: (1) it is adapted for use during the continuance of a squint of any degree; (2) the suppression of the vision of the deviating eye is quickly overcome by the unequal illumination of the object-slides, instead of by the slow and painful method, recommended by Javal and others, of continuous occlusion of the better eye for months or a year at a time; and (3) the variety of the pictures amuses and interests the child, so that he will give all the help he can.

OPERATION.

Age.—If I am unable to get binocular vision I do not usually operate before the age of eight or nine years. If, however, exercises with the amblyoscope have produced a strong "desire" for fusion I have no hesitation in operating at any age. Operation is *indicated* when the periodic measurements of the angle of the deviation show that this is either not decreasing or is decreasing only very slowly. The dynamic convergence should always be examined. If the fixing eye, after looking at a distant object, suddenly fixes a nearer object the deviating eye will roll still further inwards, a dynamic convergence being superadded to the abnormal static convergence. If the dynamic convergence is very deficient simple tenotomy is strongly contra-indicated. If binocular vision cannot be obtained, and a removal of the deformity is all that can be hoped for, and if dynamic convergence is good, it does not matter so much what operation is done; though the wide palpebral fissure and slightly proptosed eye often seen after tenotomy do not improve the personal appearance of the patient. But if I have been able to develop the fusion faculty and I expect to get binocular vision after operation, I never do a tenotomy except in combination with an advancement. I once used to tenotomise these cases sometimes for want of beds. Several of these patients have since suffered from insufficiency of convergence and pain in the eyes in near vision.

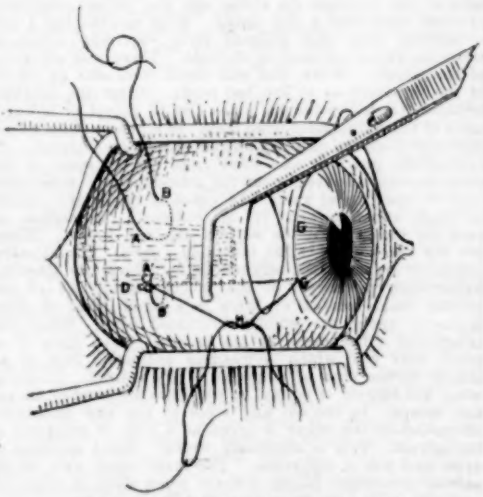
The operation of advancement of a rectus muscle.—The great cause of failure in this operation is the difficulty of getting the sutures to hold. With practice one can make sure of getting a firm hold of the tough fibrous tissue at the margin of the cornea without putting in the needle dangerously deep, so that this end of the suture does not tear out. The difficulty is with the end which is attached to the muscle. After trying extensively many different advancement operations I found that two gave better results than the others. In one, three or four sutures are simply passed through the tough circumcorneal tissue and through the muscle. If these sutures hold for a week the results are permanent. But the muscle end very often cuts its way through in three or four days. In the other operation the sutures are knotted on the muscle either in one or two parts. This nearly always gives good *immediate* results, but a very large proportion of the cases relapse within six months. I think that this is probably due to the fact that the muscle atrophies in front of the ligatures, and so is only attached to the globe by its lateral expansions.

The author's advancement operation.—I devised the following operation with the object of combining the advantages and avoiding the disadvantages of the two operations to which I have just referred (Fig. 2). The ordinary advancement instruments are required: a speculum, a pair of straight blunt-pointed scissors, a fixation forceps, Prince's advancement forceps, a needle-holder, very sharp curved needles, and thread, and, if a tenotomy is to be done at the same time, a squint-hook also. For the suture material I use black silk prepared as follows. After sterilising and drying, the silk is steeped for a few minutes in very hot melted paraffin wax to which a little vaseline had been added. The thread is then drawn tightly through a sterilised rag and is kept in bottles ready for use. The black silk is easily seen. The waxing makes it practically non-absorbent and stronger and more compact, so that it can be more easily threaded. It gives the silk just sufficient stiffness to prevent its tying itself into undesired knots during the operation, without making it harsh.

The patient may be anæsthetised or, for older patients, cocaine may be used. A drop of suprarenal extract, used from time to time, facilitates the operation by making it bloodless. The surgeon, standing behind the patient's head, seizes the conjunctiva with the fixation forceps about a quarter of an inch from the margin of the cornea and below the level of the tendon. A small opening is then made in the conjunctiva with the scissors. The sub-conjunctival

tissue and capsule of Tenon are then seized with the forceps and an opening is snipped through them with the scissors. The female blade of a Prince's advancement forceps is introduced through the opening and passed beneath the tendon, the male blade being superficial to the conjunctiva. The forceps is then closed. The conjunctiva, the capsule of Tenon, and the tendon are thus firmly clamped together by the forceps while their relations are yet undisturbed. The conjunctiva and the capsule are then divided vertically for nearly half an inch close to the margin of the cornea. The tendon is divided at its insertion. One of the needles is then passed inwards at A, through the conjunctiva, the capsule, and the muscle, and is brought through to the under side of the muscle. It is then passed again through the muscle, the capsule, and the conjunctiva and brought out at B. The bight of the thread thus incloses about the lower fourth of the width of the muscle, together with its tendinous expansions and capsule and conjunctiva. The

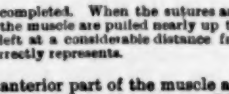
FIG. 2



Diagrammatic view of the advancement operation.

other needle is similarly entered at A′ and brought out at B′, the bight of the thread inclosing the upper fourth of the width of the muscle, &c. The ends of the thread from A′ and B′ are then knotted tightly at C. The end bearing the needle is then entered at D and is passed through the conjunctiva, the capsule, and the muscle, and then carried beneath the lower blade of the Prince's forceps nearly to the corneal margin. The needle is here passed through the tough circumcorneal fibrous tissue and brought out at G. The two ends of the thread are then temporarily tied loosely with a single hitch at H. The first suture is then similarly

FIG. 3.



The operation completed. When the sutures are finally tied the knots on the muscle are pulled nearly up to the corneal margin, not left at a considerable distance from it as the diagram incorrectly represents.

dealt with. The anterior part of the muscle and the overlying capsule and conjunctiva are then removed by cutting them through with scissors, beyond where they are grasped by the Prince's forceps. The gap is then closed by tightening and securely tying each suture at H, H, so that the anterior end of the muscle is brought nearly up to the corneal margin at G, G. Any desired degree of rotation of the eyeball may be obtained, according to the position of A, B, C. A firm, unyielding hold is got for the sutures at each end. The anatomical relations of the muscle are disturbed as little as possible, and its blood-supply is not interfered with. The immediate effect seen under cocaine or after recovery from a general anæsthetic is the final result. So far, I have had no relapse with this operation.

These methods of treating a case of convergent squint may seem somewhat tedious. But surely no one will grudge the time and trouble if he realises that the whole future career of the patient often depends upon the skill and care of the surgeon who first sees the case.

CASE 3.—In November, 1899, a brother and sister were brought to me suffering from convergent squint—the eldest child, a boy, aged eight years, and the fourth child, a girl, aged two years and seven months. The boy had begun to squint when he was two years old. He was then taken to a surgeon, who ordered atropine for both eyes for some months. At the age of three and a half years the boy was ordered to wear glasses. He has worn glasses ever since. When I saw him, at the age of eight years, he had a slight convergent squint in the left eye of seven degrees with his glasses. The squint was quite masked by the angle gamma. But the squinting eye had lost all power of fixation and its vision was reduced to the counting of fingers at a distance of four feet. This boy will of course be debarred from entering the profession of arms for which he was intended.

CASE 4.—The sister of the patient in Case 3 was two years and seven months old when I first saw her. She had convergent squint in the left eye of 38 degrees. The fixation of the left eye was wandering and uncertain but was not quite lost. After retinoscopy under atropine glasses were ordered. Continuous occlusion of the right eye for 14 days resulted in quite steady central fixation in the left eye. A drop of liquor atropinæ was then ordered to be put in the right eye *only* every morning and the shade was discontinued. The child immediately learnt the trick of using the (atropised) right eye for distant vision and the (unatropised) left eye for looking at near objects. She has used atropine, for the right eye only, for the first fortnight in each month ever since. Three months ago I began exercises with the amblyoscope. Her fusion faculty was easily and quickly developed to a very potent degree. The angle of the deviation is now 16 degrees and the ivory ball test shows that the vision of the deviating eye is at least equal to $\frac{6}{12}$. Operation may or may not be necessary—most probably not. In any case there will be a perfect cure of the squint with the highest grade of binocular vision, and in all probability she will be able later to dispense with her glasses except for near work.

It is not quite certain that the boy would have fared as well as the girl had he received similar treatment soon after the squint showed itself, though it is extremely probable. But this is certain—if the girl had had no more done for her than the boy she would have been now in the same deplorable condition.

The family practitioner is in most cases consulted about squint, or he notices it himself, soon after its first appearance. The responsibility then rests with him to see that the child receives efficient treatment *early*. Unless he has sufficient time and knowledge of ophthalmology to treat the case himself he should see that the child is taken to an ophthalmic surgeon or hospital without delay. If some delay should be unavoidable he can at least order a drop of atropine to be put in the fixing eye only every morning.

Harley-street, W.

UNIVERSITY OF BIRMINGHAM: APPOINTMENT OF EXTERNAL EXAMINERS.—At a meeting of the University Council on May 1st, the Vice-Chancellor (Alderman C. G. Beale, M.A.) presiding, the following appointments of examiners were made among others:—Physics, Professor J. J. Thomson, F.R.S.; Chemistry, Professor H. McLeod, F.R.S.; Zoology, Dr. S. F. Harmer, F.R.S.; Botany, Professor Reynolds Green, F.R.S.; Philosophy, Mr. J. F. Stout; Anatomy, Professor Alexander Macalister, F.R.S.; Physiology, Professor John Grey McKendrick, F.R.S.; Pathology, Professor G. Sims Woodhead, F.R.S. Edin.; Medicine, Dr. Donald MacAlister; Surgery, Mr. W. H. A. Jacobson; Midwifery and Gynæcology, Dr. Berry Hart; Forensic Medicine and Toxicology, Dr. A. Pearson Luff; Public Health, Dr. George Reid; Dental Subjects, Mr. Charles S. Tomes, F.R.S.; Clinical Medicine, Dr. T. Stacey Wilson; and Clinical Surgery, Mr. W. F. Haslam.

DISEASES OF THE MAXILLARY ANTRUM, THEIR SYMPTOMS, CAUSES, AND TREATMENT.[1]

BY ADOLPH BRONNER, M.D., M.R.C.S.,
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THE subject of my paper to-night—diseases of the maxillary antrum—is one in which I have for the last 15 years had a good deal of experience; and in numerous cases I have had the pleasure of working with members of your profession.

The maxillary antrum or sinus, or "antrum of Highmore," is of pyramidal shape and is situated above the molar teeth and below the orbit. In the fœtus the antrum is very small—in the fourth fœtal month it is only one-third of a millimetre in size, in the fifth month it is about five millimetres—and it is round in shape. It lies high up above the unerupted teeth. It remains small up to the fifth or the sixth year, when it rapidly increases in size and alters its shape. In the seventh year it is fairly large, of pyramidal shape, and it lies lower down, just above the roots of the molar teeth. These facts are of great importance from a surgical point of view. Up to the sixth or the seventh year the antrum should be opened through the middle nasal meatus and not through the alveolus. The size and position of the antrum in adults, however, vary very much, even in the same individual. They depend on the amount of bone-absorption in the upper jaw and on the size and shape of the nares. If the nasal cavity is large it naturally encroaches on the antrum. In opening up the antrum we have to take all these facts into consideration, and the operation is not so easy and simple as some people seem to think.

Of the walls of the antrum only two, the inner and the lower, concern us this evening. The inner wall is, of course, the outer wall of the nasal cavity. It is bony, with the exception of one part which consists only of mucous membrane. This lies between the middle and lower turbinated bones. In it are situated the normal openings—the maxillary and the so-called accessory ostium. The former lies further forward and higher than the latter. The lower part of the antrum is contained in the alveolar process. It varies very much in size and position. Generally it extends down to the roots of the molars. Often these are covered only by a very thin layer of bone which frequently is pressed upwards by the tooth and in part projects into the antrum. Often there is a *thick* layer of bone between the teeth and the antrum. If the lower portion of the antrum is broad, we call the parts the "alveolar sinus" and the "palatine sinus" respectively. The lining mucous membrane of the antrum is directly continuous with that of the nose through the maxillary and accessory ostia.

The commonest disease of the antrum is the so-called empyema or purulent catarrh of the lining mucous membrane. Cases of acute empyema were very rarely met with before the recent epidemics of influenza. Since then they have been fairly common. Sometimes they follow scarlet fever. The symptoms are generally well marked—severe pain, neuralgic or throbbing, which increases on pressure or rapid movements of the head. The pain is generally intermittent and depends greatly on the amount of fluid in the antrum. When this escapes through the ostia the pain subsides, but returns again as soon as the serum or pus accumulates. The teeth are often painful, especially on pressure. This gives rise to the erroneous idea that the teeth are diseased and are the cause of the empyema. There is generally rise of temperature. The cases mostly heal spontaneously without operative interference. In the two cases which I have seen, however, I opened up the antrum at once and the distressing symptoms soon disappeared.

Chronic empyema of the antrum is extremely common. It is generally not diagnosed. In fact, in many cases the patient does not complain of any symptoms and the empyema is only discovered at the post-mortem examination. The old-fashioned idea (which I am sorry to say is still very prevalent) that empyema of the antrum gives rise to most distressing symptoms, such as distension of the cheek, severe pain, &c., is absolutely wrong. These cases are rare and they are generally the result of a long-standing and neglected empyema. Of course, cases of syphilitic or tuberculous disease of the antrum do give rise to grave symptoms. As a matter of fact the subjective symptoms are very slight. There is often recurrent infra-orbital neuralgia or a dull aching pain in the cheek, accompanied by swelling of the soft tissues. More frequently there is pain over the nose and orbit. This fact is of great practical importance, as disease of the frontal sinus is often wrongly diagnosed. I know of several cases of empyema of the antrum which, because of the orbital pain, were diagnosed as, and treated for, frontal sinusitis. The most common complaints are neuralgia, a blocking of one nostril, unilateral "cold in the head," a nasal discharge, or a bad smell in the nose. Often only one of these symptoms is present. I have already published[2] three cases of empyema of the antrum, in which a bad smell in the nose was the only symptom complained of. The discharge or the smell is more marked when the patient bends the head forward or on one side. If the accessory ostium is large and open the pus flows to the back of the nose into the throat and the patient complains of a bad taste and a dry throat. Some months ago I saw a medical man who suffered from recurrent unilateral tonsillitis and a bad smell in the nose. There was empyema of the antrum. When this was cured there was no return of the tonsillitis or of the bad smell. Often the constant irritation caused by the pus gives rise to polypi or enlargement of the middle turbinated bone. In all cases of unilateral discharge from the nose the antrum should be explored. Of course, the pus may also come from one or more of the other accessory sinuses, from the ethmoidal and sphenoidal cells or the frontal sinus. In cases of ozæna the antrum is often affected, and it is obviously impossible to cure the ozæna until the antrum has been treated. These are the cases of so-called incurable ozæna. The objective symptoms are also often very indefinite. Generally, there are hypertrophy or polypi of the mucous membrane of the middle nasal meatus or there is a small crust of dried muco-pus under the middle turbinated bone. When this is removed a few drops of pus escape. Often there is no crust, only pus which sometimes pulsates. This is an almost certain sign of empyema of the antrum. Of course when the antrum is empty, or the ostia are blocked, no pus can escape. In the old and some of the new text-books distension of the cheek is given as a sign of empyema of the antrum. This is absolutely wrong. These are cases of cysts and not of empyema. The inner nasal wall of the antrum sometimes bulges inwards when there is much pus and the ostia are blocked. Rarely there is distension downwards towards the hard palate. I have only seen three or four of these cases. The only way of making a reliable diagnosis is to puncture and to wash out the antrum. This is generally done with a Lichtwitz trocar. The opening is made in the lower meatus, about three centimetres behind the anterior part of the lower turbinated bone, and just under it. If made too low down the puncture is difficult and painful, as the bone is often very thick there. If cocaine or eucaine is applied a few minutes before operating, there is little or no pain. Warm sterilised water is injected through the trocar. It escapes through one of the ostia. If it is clear, of course there can be no empyema. If the ostia are blocked you must make a counter-opening or use a double trocar. As I mentioned above, the antrum is often very small or practically non-existent, and this explains why in some rare cases it cannot be found with the trocar. Out of the many cases which I have punctured with the trocar I have only been unable to find the antrum in four or five. I may add that in all cases of purulent nasal discharge (which are extremely common) and in cases of obstinate ozæna, I always, when possible, syringe out the antrum for diagnostic purposes. It is very difficult, often impossible, to wash out the antrum through the maxillary ostium. It is also dangerous, as there is a possibility of wounding the orbit, as in some cases the orbit lies very near to the middle meatus. Transillumination is often used to find out if the antrum is diseased. A small electric lamp is placed in the mouth, the lips are closed, and the room is darkened. The cheek and lower orbit, and often the pupil, appear of a rosy red colour. If one antrum is diseased, that side is darker than the other. We know, however, that the size of the antrum and the thickness

[1] A paper read before the Leeds section of the Midland Branch of the British Dental Association on March 19th, 1901.

[2] THE LANCET, July 17th, 1897, p. 144.

of bone, even in the same person, vary very much indeed, so that transillumination is of no very great value. Sometimes by using Politzer's bag there is an escape of pus from the antrum. But this does not happen in all cases. The so-called "hydrops" of the antrum, as described in old text-books, does not exist. These are cases of cysts. Polypi in the antrum are fairly common, as proved by post-mortem examination, but they do not always give rise to subjective symptoms. Sometimes, however, they block the ostia and prevent the passage of serum or pus and of air in and out of the antrum.

Now about cysts. These are not very common and they are mostly of dental origin. We know very little about their pathology. I had intended to discuss this matter thoroughly this evening, but I could not get the specimens I had hoped to procure, nor could I find much reliable literature on the subject. There are, roughly speaking, two kinds of dental cysts, those caused by retention of unerupted teeth and those due to inflammatory changes in the root-membrane of an already erupted tooth. In the first class the tooth is generally contained in the cyst. It is often difficult to diagnose between empyema and a cyst. A large cyst causes distension of the cheek, and on pressure you hear a peculiar crackling noise. If you inject water into the cyst, it does not pass out through the nares, as it would if injected into the antrum.

Tumours of the antrum are frequently met with. The most common is carcinoma. The first symptoms are severe pain in the cheek and nasal discharge. You generally find nasal polypi. These bleed freely on removal. If diagnosed early and if the whole of the upper jaw is removed (this is absolutely necessary) the prognosis is fairly good. I saw a well-known man of this town some seven years ago. He complained of unilateral nasal obstruction and epistaxis; there was not very much pain. On removing numerous polypi, I found a large opening into the antrum which was filled with a red soft growth. The upper jaw was removed by Mr. E. Ward, of Leeds, and the patient is still alive and occupying an important official position.

The question of causation of empyema of the antrum is still a much disputed point. Formerly it was thought that most cases were due to diseased teeth. This, however, is not the case. Anatomists maintain that the empyema is very rarely of dental and nearly always of nasal origin. Zuckerkandl, the greatest authority on the anatomy of the face, examined 300 cases of empyema of the antrum in the post-mortem room and in only one case could a direct connexion between the teeth and the empyema be found. Of course there may have been, and probably were, several cases in which an existing connexion could not be, or was not, traced at the post-mortem examination. The dental origin can be two-fold—disease of the tooth root (with or without abscess) or alveolar periostitis. We know that often the roots of the premolar or molar teeth practically touch the thin floor of the antrum, in some cases they even project into the cavity. Considering the large number of persons who suffer from diseased teeth it is very remarkable that relatively so few cases of antral disease are met with and that the direct connexion cannot be traced anatomically. We know also that after extraction of molar teeth a probe can often easily be passed into the antrum; and yet disease of the antrum following this operation is very rare.

Empyema of nasal origin can be due either to a direct extension of disease of the mucous membrane of the nares through the maxillary or accessory ostium into the antrum; (for we know that the membrane of the two cavities is directly continuous), or particles of mucus and pus or any foreign body containing micro-organisms can be blown into the antrum through the ostia, when the patient blows his nose, and set up inflammation there. In some cases (perhaps a large number) the ostia become blocked by hypertrophied mucous membrane or by a polypus. As can readily be understood this must give rise to disease of the lining membrane of the antrum. During the last 15 years I have seen many cases of empyema of the antrum. In every case I have tried to trace the origin of the disease, and only in very few have I been able to find any direct connexion with a diseased tooth or teeth.

The methods recommended for treatment of empyema of the antrum are numerous. The points to aim at are (1) to open the antrum at the lowest possible point, so as to get good drainage of the cavity, and (2) to keep this opening patent till the disease has been cured. Cases of acute empyema generally heal without surgical interference. In chronic cases the antrum can be opened up through the middle or lower nasal meatus, the alveolar process, or the canine fossa. The middle meatus is obviously too high. Even the lower meatus is not low enough to secure proper drainage. The simplest and most effectual method is to make an opening into the antrum through the alveolus. I also always make a counter-opening through the lower meatus. The fact that in most cases one or more of the premolar or molar teeth are missing or diseased simplifies the operation. Numerous burrs and drills have been recommended for perforating the alveolar process. As the size and position of the antrum vary very much it is necessary to be very careful, as there is danger of penetrating into the nose or the orbit. The cavity should be washed out. The nature of the discharge often gives us an idea as to the extent and character of the inflammation. In many cases the operation can be performed with cocaine or eucaine (beta). I generally apply a little powdered eucaine and cocaine to the parts and then inject about 10 minims of a solution (1 per cent.) of eucaine. The latter is less liable to give rise to toxic symptoms than cocaine. The fistula readily closes up and it is in all cases absolutely necessary to keep it open for several weeks or even months, till the diseased mucous membrane of the antrum has been cured. A metal tube or solid plug should be introduced a day or two after the operation. This can be fixed on to the adjoining tooth or teeth; or if the patient wears a plate, attached to this. If a tube is used it is generally supplied with a revolving plate or a cap or plug of some kind, to prevent the entrance of food into the antrum. Personally, I do not think that it is always necessary to block the tube. Food does not readily enter in any large quantities, and if it did it would come away when the cavity was washed out. Mr. W. J. England, of Cavendish-square, London, has kindly sent me a pattern of the tube which he generally uses.

The after treatment is of great importance. In most cases the tube is removed and the treatment stopped much too soon. The cavity should be washed out from two to four times a day with a hot antiseptic solution, as long as there is any discharge; that is, until the water which passes out through the nares is quite clear and contains no pus or mucus. For at least from four to six weeks longer the tube should be kept in position and the cavity syringed out once a day. I always also use insufflations of aristol and boric acid from two to three times a day; at first in very large and then in small quantities. This shortens the treatment very much. If at the end of from four to five weeks the secretion of pus has not ceased, there will probably be a polypus in the antrum or some disease of the bone. The opening should then be enlarged so as to admit a finger and the cavity should be carefully explored. If the alveolus is not large enough it becomes necessary to make a large opening through the canine fossa. An incision is made through the mucous membrane, this is deflected and a large piece of bone is removed with the chisel. The cavity is well scraped out with a sharp spoon and plugged for several days with gauze. Many surgeons open up the antrum through the canine fossa in ordinary cases. The advantages of this method are that the pus from the antrum does not drain direct into the mouth, that there is no danger of food entering through the opening, and that the tube is easily kept in position by the lip. Personally, I prefer the alveolar method and only open up through the canine fossa when the teeth are all sound or when I think that there is a polypus or some carious bone in the antrum. When there is a cyst this should be extensively opened, the lining membrane scraped, and the cavity allowed to heal up by granulation. In large cysts we often have to excise part of the bony wall. It is remarkable how quickly the parts regain their normal shape and how little deformity remains.

Bradford.

NOTIFICATION OF MEASLES.—The Sanitary Committee of the Exeter City Council have recently inquired into the advisability of the notification of measles and have taken the opinion of the five district medical officers upon the subject. At the meeting of the city council on April 27th the committee reported that acting on the advice of four out of the five medical officers they had decided to recommend that measles be not included in the list of notifiable diseases. The recommendation was adopted by the council.

MENTAL FATIGUE IN SCHOOL-CHILDREN.

BY DR. JOSEPH BELLEI,
OF THE BOARD OF HEALTH, BOLOGNA, ITALY.

ONE of the most important problems connected with the general question of the education of the young is the determination of the relations existing between the daily instruction given in the schools and the fatigue that is thereby caused, so that a way may be found of imparting knowledge without danger to the physical and mental health of the children.

As one of the medical officers attached to the public schools of Bologna I have endeavoured to study the phenomena of mental fatigue in several children who were under my care, so that I might perhaps contribute in some degree to the solution of a problem which is in itself of great importance, and, moreover, has not received in Italy the attention which it deserves. Many are the methods used to determine the degree of mental fatigue. They can be divided into (1) those which attain their end in an indirect manner—viz., through experiments on the sensibility of the skin, on the amount of muscular fatigue, &c.; and (2) those which draw their conclusions from the direct examination of the mental work done by the children at a given moment. These last can be classified as follows:—

1. *The dictation method.*—The children at a given moment are set to write from dictation an article of a definite length, the character of which is well within the range of their mental capacity. The number and nature of the mistakes that are made are taken as the index of the quality of the work and therefore of the mental fatigue at the moment.

2. *The method of memory.*—The teacher repeats to the children with a definite rapidity a series of numbers which they have to write down in the same order. One can judge of the mental fatigue from the greater or less number of figures that the children have taken down in order.

3. *The arithmetical method.*—This method consists in giving the children exercises in addition, multiplication, &c., or easy problems of algebra to do at a given time.

4. *The method of combination.*—Ebbinghaus has proposed a special method of studying the mental capacity of children. He believes that it can be adapted also for the determination of mental fatigue, but I think that for this latter purpose Ebbinghaus's method is useless.

I pass over the methods by which mental fatigue is estimated in an indirect manner, because it is impossible to employ them on many persons at the same time. Which is to be preferred among the methods by which mental fatigue is estimated from the quality of the mental work? I think that in order to form an exact idea of school-children's mental fatigue at a given moment it will be sufficient to estimate the attention that they can give to a subject at that moment, because this will be diminished in proportion as the mental fatigue increases. With the methods of memory, arithmetic, and combination the children are subjected to a mental tension which must certainly influence the experiment. In these cases, perhaps, the children may either be able to accomplish more than their minds are properly capable of at that moment, or, on the other hand, being preoccupied with the task that has been set them, by the effect of a natural inhibition, they cannot do as much as they might have done if they had not had such a preoccupation. Writing from dictation is, however, a task adapted to all the children in a class, and it does not preoccupy them at all because they are in the habit of doing it. It is done only with the help of attention and without the necessity of bringing superior faculties of mind into play. Therefore, according to the greater or less number of mistakes that are found in the written matter, one can infer with certainty the amount of attention that the children are able to give to a subject at a particular time and thus naturally the degree of mental fatigue.

I accordingly chose this last method for use in my study of mental fatigue. I examined 320 boys of the average age of 11 years four months and a half, and 140 girls of the average age of 11 years and eight months. These 460 children were divided into nine different classes, in which, although the plan of instruction during the year was the same, the teacher had certainly an individual influence. For this reason I thought at once that my investigations would not be made under uniform conditions, but I nevertheless tried the experiment. The results that I obtained in the nine classes for the most part presented similar features, and are therefore, I think, of considerable importance. With the help of an intelligent teacher I arranged six passages for dictation, almost equal in respect of the difficulties that they presented and in the number of words. I used each of these six dictations for an experiment. The first was given to the children at 9 A.M.—i.e., at the commencement of school hours; the second at 10 A.M., at the end of the first lesson; the third at 11 A.M., precisely at the end of the second lesson; the fourth at 11.45 A.M., immediately before the luncheon hour and midday rest; the fifth at 12.45 P.M., when school was resumed for the afternoon; and lastly, the sixth at 2 P.M., during the last half-hour of lessons. Each of these dictations was given in the classes in which I experimented on a day selected at random, so that the teacher might not have any influence on the experiment. I took accurate note of the subjects that had occupied the children's minds from the beginning of the lessons till the moment in which they were set to write from dictation.

I collected the material in two months, about 2760 dictations. Each of the experiments was conducted in the following manner. When the children were ready the first sentence was dictated, sometimes by me, but oftener by the teacher in my presence, and repeated by one of the children who usually had this duty. Every one of the children wrote it at once, and that done each put down his pen and raised his head, so that he could not look again at what he had written. The second sentence was dictated when all had finished writing the first. This method was continued until the end, and as soon as all the sentences were dictated the papers on which the children had written were collected at once. The children were told that they were expected to do their dictation *well* and not to hurry themselves. Each dictation took from 20 to 25 minutes. For the correction and counting of the mistakes I followed Friedrich's method, reckoning separately mistakes and auto-corrections. I considered as mistakes also the unwritten words and parts of sentences left out and the extra words, as auto-corrections the right letters written over the wrong ones. I counted also the children who did not make any mistakes and divided the others into groups corresponding to the number of mistakes that they had made. The results which I obtained in my trials I have collected in several tables that give an exact idea of the quality of the work done by the children at the end of each hour of lessons. In my treatise on "Mental Fatigue in Children" I have inserted many tables to render comparison easier and the numerous results that I obtained more intelligible, but in the present short article I have given only one table which summarises the results obtained in all the classes as if they were only one, in which there were 460 children of the average age of 11 years and six months.

GENERAL SUMMARY OF RESULTS.

Trial.	Hours.	Average age.	Written Letters.	Mistakes.		Differences.	Auto-corrections.		Children who did not make mistakes.		Average of the mistakes for every child.	Below the average.	
				Total.	Per cent.		Total.	Per cent.	Total.	Per cent.		Total.	Per cent.
1	9¼	11 years and 6 months.	117,802	1399	1·187	...	126	0·106	31	7·69	3·47	222	55·08
2	10		129,808	1205	0·928	−0·229	182	0·140	59	14·04	2·86	232	55·23
3	11		125,630	1165	0·931	+0·003	163	0·130	61	14·28	2·72	245	57·37
4	11¼		127,500	1227	0·962	+0·031	117	0·099	72	16·90	2·88	248	58·16
5	12½		123,900	748	0·603	−0·359	95	0·076	119	29·31	1·84	233	57·38
6	14½		126,793	1614	1·272	+0·669	170	0·134	40	9·63	3·88	256	61·68

From this table it appears (1) that the best result was obtained at 12.30 P.M.—i.e., after the mid-day rest; (2) that the worst result was obtained at the end of the afternoon lessons; (3) that the greatest difference in the results between two consecutive experiments occurs on comparing the fifth and sixth trials; (4) that after the work done at the end of the afternoon lessons the next worst in point of quality was that which was done at 9.30 A.M.—i.e., at the time when the children arrived in school in the morning; (5) that comparing the work done after an hour's lesson with that which was done when the children arrived in school in the morning, the first was better than the second; and (6) that the differences between the results of the second, third, and fourth trials were so small that they might be considered as equal. When I had finished these experiments I made others with only one dictation, which I gave at different hours in different classes or even in the same class. In the first case the instruction of different teachers certainly had an influence upon the percentage of the mistakes and therefore upon the comparison of the results, and in the second case the same dictation given under the same rules, though on different days, ended by annoying the children, who after some trials worked without any attention. I always had the best result at 12.30 P.M.—i.e., immediately after the rest between the morning and the afternoon lessons. The worst result I had constantly at 2.30 P.M.—i.e., at the end of the afternoon lessons. The proofs that I obtained in these experiments in the morning were very unequal, but, for the reasons that I have given, they did not merit great consideration. These experiments, then, confirmed to a great extent the results obtained before.

The conclusions I arrived at were the following: (1) I could not draw any conclusion as to the influence of the single subjects of teaching; (2) the first hour of lessons is a useful mental exercise, because the children are able during that time to overcome the state of inattention in which they were at the time of coming to school; (3) the morning lessons do not produce great mental fatigue; (4) the mid-day rest is of great use to the children because it does not destroy the good effects of the mental exercise in the morning and enables them to do work of better quality than that which they produce after a long rest, as one observes at the beginning of the morning lessons; and (5) though immediately after the midday rest the children are in the best conditions of mind, an hour or so of application in the afternoon is sufficient to produce such a mental fatigue as to lead at the end of the afternoon lesson to the worst work of the day. Therefore, if the morning application does not fatigue, it consumes the mental energy of the children in such a manner that they cannot undertake light work in the afternoon without falling into great mental fatigue.

Bologna, Italy.

THREE CASES OF MYXŒDEMA OF VARIED TYPE.

BY WILLIAM WYLLYS, M.R.C.S. ENG., L.R.C.P. LOND., L.S.A.

THE following three cases of myxœdema which have come under my care in general practice during the past seven years were of so varied a character and ran such different courses that a description of them may prove of interest and possibly be of some assistance to the diagnostician. Two of the cases in particular demonstrate the difficulty of early diagnosis from the insidious nature of the onset of this disease.

CASE 1.—A woman, about 60 years of age, was first seen by my senior partner one night in response to a message on account of very obstinate constipation combined with a curious alteration in her manner and low state which caused her relatives some alarm. I saw her three days later when I made this note: "Pulse weak and slow, eyes puffy, body swollen, headaches, bowels not open, hands stated to feel numb, mind deranged; urine to be tested." I had not made up my mind what was the matter with my patient, though I was partly on the track. My father, on seeing her the next day, made this note: "Has a myxœdematous look, with slow speech, thickened features, &c.," with which I entirely agreed, and a correct diagnosis having been attained I started by giving the patient five-grain tablets of thyroidin three times a day. By this time, however, she had become so unmanageable and suffered from so many delusions and hallucinations that very few tablets were taken. Her power of deglutition, too, was so much involved that she could and would take but very little nourishment. Respiration, except during paroxysms of mental excitement, was slow and shallow. She became very suspicious at times and at others was extremely dull. On one occasion during a bout of mental instability she nailed up all the doors in her house and then stood still in the middle of her room for one and a half hours without speaking; she then broke into a hymn and finally she fell down, though she did not become unconscious. Her skin was generally thickened, harsh, and dry and in places it was parchment-like (her hands especially so) and of a deep red tint. She was troubled much with flatulence and intractable constipation. There was marked proliferation of the skin about the nose which desquamated freely. Six weeks from being first seen she was so wildly maniacal that her removal to the lunatic ward of the workhouse infirmary had to be effected and there she died a few weeks later with acute mania. Her family history was of moment, as both her father and her brother had died from "dropsy" and, according to her relatives, were affected much like my patient. Her eldest daughter, too, died from "dropsy and mortification," aged 20 years.

CASE 2.—A woman, aged 45 years, sent for me one morning at two o'clock on account of an attack of diarrhœa with sickness, which had presumably been caused by her having eaten on the day before sausages, shrimps, and plaice. She was down for a holiday at Yarmouth, which may account for this curious dietary. Her pulse was 78 and her temperature was 97° F.; her hands and feet were very cold. An effervescing mixture with pills of calomel and opium (one quarter of a grain of each) were given and the intestinal symptoms abated, though her exhausted condition caused me some uneasiness. Her apathy and disinclination to get up when her condition improved aroused my suspicions, and with a history of "a sensation of closing up in her throat after talking" I thought neurosis was the fault. For the next few days her temperature was 98° in the morning and the evening; her pulse ranged between 60 and 68 and was of low tension and volume. She complained that for the previous 12 months she had felt easily tired and languid and had repeatedly suffered from aching pains in the legs, and that the skin of her face and hands had assumed a yellow tint. She also said that her face had become puffy and that her teeth and her hair had fallen out, and also that the skin on her legs had become rough. She had suffered from menorrhagia, leucorrhœa, and chronic diarrhœa for some months. Her speech was of a measured type and her movements were slow. With these symptoms and signs I deemed a diagnosis of myxœdema to be logical, and accordingly I prescribed five-grain tabloids of thyroidin, one to be taken every night and morning, with the effect of which she was delighted, stating "that they made her feel much better," and she asked me to write to her usual medical attendant describing them and stating what I considered her complaint to be, so that she could continue with the treatment on her return home. I regret to say that the urine was not examined. A few days later she had to go home though she still felt very weak, and I soon afterwards received a letter from her medical adviser saying that he quite concurred in the view which I took of the case and that he should proceed with the thyroid treatment. The insidious nature of the disease and the very slight alteration in the state of the patient from month to month no doubt made a correct conception of her malady very difficult, especially as I believe that she had never been acutely ill enough to be confined to bed so that a thorough overhaul of her condition might be made; but viewed as it were with fresh eyes and from a new standpoint, after a depressing attack which accentuated her mental apathy and nervo-muscular debility, a diagnosis of her complaint was not so difficult a matter.

CASE 3.—A married woman, aged 52 years, the mother of many children, with a history of having been "an ailing woman for two years," was first visited professionally on account of an attack of sickness accompanied by loss of appetite and insomnia. Her aspect was "renal," her feet were œdematous, and a faint systolic murmur could be heard at the base of the heart. The urine was acid, and its specific gravity was 1030. It contained no albumin, and urates were present. Although the patient was resting in

bed on a low diet vomiting persisted, in a few days marked stupor became evident, and the case for a time looked like one of cerebral origin. The urine was again tested with negative results. The patient became very weak, her breath was short, and she was apathetic. Her breath was very foul and her tongue was thickly furred, flabby, and large; the lips were full and livid, the face was decidedly puffy, and the bowels were very costive. Increasing signs of mental failure, loss of memory, stupor and giddiness with melancholia, and falling out of her hair, associated with a bruit about the aorta, pointed to syphilis, and iodide of potassium was tried but without avail. The probability of myxœdema being the *fons et origo mali* next suggested itself and a five-grain tabloid of thyroidin, to be taken twice daily, was prescribed with the result that in three days an obvious change for the better had set in, the patient saying, to use her own words, that "she did not feel so dull." She also began to sleep better, was more inclined for conversation, and she looked decidedly better. The thyroid gland was felt for but could not be made out. The patient for the first few weeks was kept in bed and the dose of thyroidin was gradually increased from two to four tabloids a day and saline aperients were given. This line of treatment was persisted in for six months, the patient, though inclined to shortness of breath and aching of the legs, eventually being able to walk up to my house in very fair health and spirits to see me. Her pulse had become of good volume and tension, the œdema of the feet had disappeared, her face and lips were but very little swollen, and having so far recovered she left off the treatment. A year has passed by and I have just seen her again. Although she is able to perform her household duties, if she is not hurried, she is obviously in need of thyroid tablets, as she has marked dyspnœa, swelling of the ankles, puffiness of the face, and disinclination for much mental effort. The instructive points in this case from a diagnostic standpoint are, I consider, (1) its resemblance to Bright's disease; (2) symptoms which seemed to point to brain disease; and (3) signs of atheroma of the aorta; in reality, however, myxœdema was the cause of her illness. The sloppiness of the conjunctivæ referred to by Chapman[1] as due to the presence of mucin, and diagnostic of myxœdema when no albumin is found in the urine, was well marked when I saw my patient last.

Great Yarmouth.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A QUIET EFFUSION INTO THE KNEE-JOINTS.

BY J. LIONEL STRETTON, L.R.C.P. LOND., M.R.C.S. ENG.,
SENIOR SURGEON TO THE KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.

IN the report of a very interesting lecture on the above subject by Mr. William H. Bennett contained in THE LANCET of Feb. 23rd, p. 527, it is stated that "it is limited to girls and women and is always associated with menstrual irregularity or uterine trouble." As I have met with several cases which appear to be exactly similar to those described save for the fact that they occurred in males, perhaps it may be of interest to mention them. I have only exact notes of the last case which I append.

The patient, a boy, aged 11 years, was brought to the hospital on Oct. 4th complaining of swelling of the right knee which had existed for several weeks. There was no history of injury and his family were all healthy—no tuberculous or syphilitic mischief. He walked into the consulting-room without difficulty and did not complain of pain. On examination the right knee was found to be swollen and contained a considerable amount of fluid. When standing the gravitation of the fluid to the lower anterior part of the joint was well marked. On comparing it with the other knee effusion was found in that also but not so much in amount. The circumference of the right knee was 13½ inches and that of the left 12 inches. There had been no injury and nothing could be elicited to account for the condition. There was no increase of temperature or other constitutional trouble. He was put to bed and the knees were kept on back splints with lead lotion, &c. He was blistered, treated with Scott's dressings and plaster-of-Paris cases. Internally he was given a course of iodide of potassium, sodium salicylate, and tonics, but all to no avail, as after two months his condition remained unaltered. He was put in plaster-of-Paris cases and allowed to get up and walk about. He went home and when he reported himself a month later the effusion had very much diminished. He was ordered to have his limbs and knees massaged and to leave off the cases. When seen a few days ago, six months since his admission, the effusion had entirely disappeared and he was able to walk about without causing any swelling.

Kidderminster.

[1] Medical Record, Oct. 21st, 1899.

NOTES ON TWO SUCCESSFUL CASES OF OVARIOTOMY WITH COMPLICATIONS, ILLUSTRATING THE VALUE OF SALINE FLUSHING.

BY E. J. TREVOR JONES, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.,
SURGEON TO THE ABERDARE COTTAGE HOSPITAL.

CASE 1.—The patient, a married woman, aged 32 years, consulted her medical attendant nine months after marriage because she was alarmed at the rapidly increasing size of her abdomen—a condition which was at first thought to be pregnancy. I saw her in consultation with Mr. F. Finney and an ovarian cyst was diagnosed. She was admitted to the Aberdare Cottage Hospital in June, 1900. On opening the abdomen the cyst was found to be unusually tense and large, with many adhesions. On introducing the trocar the tense cyst ruptured and in spite of careful packing much of the contents escaped into the peritoneal cavity. After emptying the cyst the adhesions, which were unusually numerous in a cyst only seven months old, were ligatured, but the omentum was found to be adherent to the intestine. The adhesions were dissected off and part of the omentum was ligatured and taken away. The abdomen was then thoroughly irrigated with warm saline solution (one and a half drachms of chloride of sodium to the pint of sterilised water). When the fluid had returned clear the abdomen was united with silkworm-gut sutures through *all* the coats. The cavity was left filled with the saline solution and the wound was dressed in the usual way, but without drainage. A slight rise of temperature occurred on the first and second nights, after which the patient made a good recovery.

CASE 2.—The patient, aged 66 years, unmarried, had since the climacteric noticed a gradually increasing tumour of the abdomen which was diagnosed as an ovarian cyst. The operation took place in the patient's home on August 12th, 1899. A three-inch incision was made and the trocar was introduced in the ordinary way. On emptying the cyst by pressure it ruptured and some of the contents escaped into the peritoneal cavity. In this case the adhesions were few and the wall of the cyst seemed to be undergoing degenerative changes. On introducing the hand to ligature the pedicle a moderately-sized tumour was detected which on examination proved to be a uterine fibroid. The abdominal cavity was thoroughly irrigated with the sterilised saline solution and the abdomen was treated as in the previous case, leaving the cavity of the peritoneum filled with the solution. The patient made an uninterrupted recovery and has since enjoyed good health.

I have thought it worth while to put on record my experience of the value of irrigation with saline solution and the retention of the solution in the abdomen. The solution seems to me to act by absorbing any septic matter that may remain in the peritoneal cavity. I also noticed that these two patients suffered very little from thirst after the operation, which fact may be accounted for by the absorption of fluid from the abdomen.

Aberdare.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. JOHN'S HOSPITAL, LEWISHAM, S.E.

A SUCCESSFUL CASE OF SUPRAPUBIC LITHOTOMY IN A CHILD.

(Under the care of Mr. EDGAR HUNTLEY.)

WE have within the last few years published no small number of cases in which the suprapubic operation for the removal of a vesical calculus has been performed with success, and, indeed, in the hands of a general surgeon the results are as satisfactory as those following any other method. For those who have had special opportunities of performing lithotrity that operation is doubtlessly to be preferred, not merely for the small mortality following its employment, but also for the rapid convalescence which ensues. It may, indeed, be said that the crushing operation is more likely to be followed by a recurrence, but the modern improved methods make it very improbable that any particle of the original calculus will be left behind, and even should it happen that a fresh calculus forms its removal is certainly less troublesome than a second lithotomy.

A boy, aged six years, the seventh child of healthy parents, was taken to the out-patient department of St. John's Hospital, Lewisham, early in December, 1900, when the following history was obtained. Until two years before, although considered delicate, nothing definite seems to have ailed him. He was suckled till he was 11 months old and then he partook of the fare of the parents. About two years ago he had been taken to the Miller Hospital, Greenwich, for painful micturition and inability to pass urine freely. He was there circumcised, the operation resulting in only partial benefit, for he does not seem to have lost either the pain or difficulty in passing urine for any length of time together. These symptoms, however, were not very marked until June, 1900, when he developed measles. Both the pain and difficulty then increased and remained so until his admission to St. John's Hospital on Jan. 1st, 1901. The history obtainable during the months from June to December, 1900, was that the pain and difficulty were not noticed from day to day, the child on occasions going two or three days without any trouble at all, then he would have them return many times in one day, passing small quantities of urine at a time, the pain not occurring at any special period of micturition and no blood ever coming away.

On Jan. 1st, 1901, the patient was admitted under the care of Mr. Lennard Stokes, to whom Mr. Huntley is indebted for permission to publish these notes. The case was handed over to Mr. Huntley during Mr. Stokes's temporary absence. The child was at first allowed to run about and was simply watched to ascertain definitely whether the above symptoms occurred. For 10 days pain on passing urine only happened once, but every night, and three or four times in a night, he wetted the bed in his sleep. On the 11th he was given A.C.E. mixture and his bladder was sounded. A stone was at once struck. A little delay occurred before the operation could take place, as the child developed a cough which had to be got rid of. From then until Feb. 11th there were several attacks of pain on micturition and the bed-wetting occurred nightly. The urine never contained any blood, was of specific gravity 1020–1025, was acid, and only on one occasion contained any albumin.

On Feb. 11th the patient was again given A.C.E. mixture and the bladder was washed out with warm boric lotion through a catheter. The lotion all being drawn off, four ounces of boric lotion were gently thrown into the bladder by means of a brass syringe. The catheter (No. 5) was allowed to remain in, an indiarubber band being tied round the penis and the end of the catheter blocked with a wooden match. No rectal bag was used. The abdomen having previously been thoroughly cleansed was given a final wash, and an incision about 2½ inches long was made in the middle line ending immediately above the symphysis pubis. There being a few vessels bleeding these were twisted off and the linea alba was divided to the same extent as the skin incision. After dividing the underlying soft structures and picking up a few veins the bladder wall was reached. Before opening this two long threads of horsehair were passed into the substance of the bladder wall, one towards the upper end of the exposed part and the other at the lower end. These were tied and the long ends being gently pulled forwards brought the bladder well up into the incision. The bladder was now opened with the knife between the two threads. As soon as some of the lotion had escaped, a pair of ordinary dressing forceps was passed in and the stone was brought to the surface. The stone being too large to come through the incision in the bladder this had to be enlarged upwards before extraction. The match in the catheter was then removed and the urine-stained lotion was allowed to run out. The two horsehair threads were still held up while nine Lembert's sutures of horsehair were passed by a fine curved needle. These were placed very close together and their ends were cut quite short. The long threads were then removed and the bladder was allowed to drop back. After all had been made dry the soft structures were brought together with silk and the skin was sutured with a continuous stitch of horsehair. The wound was dressed with iodoform gauze. The rubber band being removed the catheter was tied in, rubber tubing draining the bladder under the bed.

For two days the patient had rather severe vomiting, but after this he took plenty of milk food. On the third day after the operation urine was noticed to be coming along the sides of the catheter, but this was not removed until the fifth day. After this there was no trouble except for the coming away of one of the abdominal stitches. The patient left the hospital on March 12th, 1901, perfectly well. The size and weight of the stone were as follows: length, 17 millimetres (⅔ inch); breadth, 13 millimetres (½ inch); and weight, 1·5 grammes (23 grains).

ROYAL SOUTHERN HOSPITAL AND STANLEY HOSPITAL, LIVERPOOL.

FOUR CASES IN WHICH THE MURPHY BUTTON WAS USED—IN THREE SUCCESSFULLY.

(Under the care of Mr. G. P. NEWBOLT.)

IN the first of the following four cases an irreducible intussusception had to be dealt with. Resection of the irreducible portion is probably the best treatment if the anastomosis can be effected quickly, though the cases in which recovery follows in children are very few indeed as the increased shock of the resection is generally fatal. Of the four other methods of treatment which are possible for this condition[1] it cannot be said that any other offers a better chance of recovery, though the establishment of an artificial anus above the invagination is very simple. The death in Mr. Newbolt's case cannot be attributed to Murphy's button. The success of the button in the three other cases is a proof that in suitable cases and with the exercise of care very satisfactory results may be obtained with it. The Lembert stitches in addition are not usually necessary, but if time be available their application does no harm. The great bulk of the button is decidedly an argument against its use for intestinal anastomosis in femoral hernia where the bowel has to be returned through a small opening.

CASE 1.—A boy, aged four years, was admitted into the Stanley Hospital, Liverpool, under the care of Mr. Newbolt, on Jan. 7th, 1898, suffering from an intussusception. He had been ill for two weeks and was very much collapsed; his pulse was 110, his abdomen was distended, and he was under the influence of opium. The intussusceptum could be felt both per rectum and through the abdominal wall. He had vomited for several days and had passed blood and mucus per anum. Mr. Newbolt opened the abdomen in the

[1] G. L. Kerr Pringle: Bristol Medico-Chirurgical Journal, December, 1899.

middle line, but was unable to get at the tumour without turning out some of the distended intestines. Being unable to reduce the last portion Mr. Newbolt resected the gut and put in a button. He had, however, to open and to evacuate the distended intestines before he could return them into the abdomen. The patient rallied at first from the operation but died 12 hours later. An examination of the resected intestine showed that the approximation was perfectly good, but the button had no trial.

CASE 2.—A widow, aged 70 years, was admitted into the Royal Southern Hospital on May 15th, 1900, suffering from a strangulated femoral hernia on the left side. She was an old woman of spare habit and had been taken ill on May 12th with vomiting and pain in the abdomen; no motion and no flatus had been passed for three days. To her knowledge she had had no rupture before, but she had been working hard previously. On examination there was a tense globular swelling, both tender and painful, in the left femoral region. The abdomen was slightly distended. The pulse was 94, small and irregular, the respirations were 24, and there was a trace of albumin in the urine. Altogether the case did not look a very favourable one. Mr. Newbolt cut down on the swelling and on opening the sac exposed a piece of black, dull-looking, and œdematous gut. The stricture which was very tight was next divided and the bowel was drawn down until a healthy part was exposed. The wound being packed off with gauze an assistant held the bowel on each side of the gangrenous portion with his fingers whilst Mr. Newbolt removed the damaged piece of gut; there was very little bleeding from the divided parts, as hardly any mesentery was removed. The button was now inserted in the usual way and the two ends of intestine were brought together. Some Lembert's sutures were passed after drawing together the ends of the bowel so as to take tension off the button. After irrigating the parts the bowel was returned into the abdomen, but before doing this the ring had to be enlarged. The sac was next removed, the stump was tied up to Poupart's ligament, and the wound was closed. The after-progress of the case was quite satisfactory. The patient was kept on water, brandy, and beef-tea for a week; her bowels acted on the seventh day after an enema; and the button was passed on the eighteenth day. There was slight suppuration in the external wound. The patient went home seven weeks after her admission and is at present working and looking after five lodgers.

CASE 3.—A man, aged 49 years, a cotton porter, was admitted into the Royal Southern Hospital under the care of Dr. William Williams. The patient had been ill for about eight months before admission and complained of constant vomiting, of wasting, and of pain in the abdomen. He was a spare-looking man and was much wasted. There were large veins over the abdomen and a doubtful mass could be felt in the region of the pylorus. On May 22nd, 1900, the patient being under chloroform, Mr. Newbolt opened the abdomen in the middle line midway between the ensiform cartilage and the umbilicus. The stomach presented and the pylorus was seen to be involved in a large mass about three inches long. The glands were enlarged both in front and behind the growth. The stomach was pulled partly out of the wound and avoiding the colon a piece of jejunum was brought up to the stomach and held in position. An incision having been made into the stomach one half of the button was inserted and a suture was run around it; a similar proceeding was carried out with the intestine, the two halves of the button were brought together, and a few sutures were inserted to make all secure. The stomach and intestines were then returned to the abdomen and the wound was closed. An inch button was used. The patient made an excellent recovery and never vomited after the operation. In a short time he was able to take solid food but he could not digest potatoes or meat without discomfort. He, however, put on flesh and though he had some lumbar pain and flatulence at first he eventually became very comfortable and considered himself well. The button was never seen and it was thought that it had not been passed. He died some seven months after the operation, but simply from the progressive disease. The anastomosis relieved his vomiting and enabled him to take food until shortly before his death.

CASE 4.—A stableman, aged 41 years, was admitted into the Royal Southern Hospital on Sept. 18th, 1900, suffering from a strangulated femoral hernia on the left side. He had had a lump in the left groin for six years and this had gradually increased in size, but was easily reducible until two months before when it came down and was only reduced with the greatest difficulty. At 10 A.M. on the morning of admission whilst working in the stable the lump came down bigger than ever and he began to vomit. On examination at 4 P.M. there was a hard tense swelling of the size of an egg in the left femoral region and the patient was vomiting brown fluid, not stercoraceous. Mr. Newbolt cut down and opened a sac containing a large mass of doubtful-looking omentum and a piece of small intestine, the stricture was divided, the omentum was drawn down and removed, and the damaged portion of gut was then examined. It was shiny but very black and did not bleed when incised superficially. In spite of the stricture being freely divided there was no evidence of any circulation going on in the damaged gut. Mr. Newbolt therefore excised it as in Case 2, with the exception that he removed a V-shaped piece of mesentery and for his trouble got a good deal of bleeding from the cut edges. The button was put in, the gut being held by the fingers of an assistant, and no clamps were used. The opening into the abdomen again had to be enlarged before the gut and button could be returned. The sac was removed and the wound was closed as in the other case. The patient made a perfect recovery; he passed flatus on the next day and his bowels acted on the eighth day after an enema. On the twenty-third day after an aperient he experienced pain in the rectum and on examination the button was detected, of which after a glycerine enema he was safely delivered on the twenty-fourth day after operation. There was slight suppuration also in the external wound as in the other case. The patient remains quite well.

Remarks by Mr. NEWBOLT.—During the last three years I have used the Murphy button in four cases. In three of these the result was all that could be desired, while in the fourth case the patient died so soon after the operation that the button had no trial. So far, therefore, my limited experience is in favour of the button, for these cases comprise the only instances in which I have used the appliance. In Case 1 and Case 2, in which I was anxious to get my patients off the table, I was able to operate fairly quickly by means of it. In each instance I used Lembert's sutures over the button, though this is not held to be necessary, but it only takes a few minutes and by so doing a good deal of strain is taken off that portion of the intestine which is gripped by the button and there can hardly be a leakage. I believe that the fingers of an assistant are far better than any clamp if available. I think that damage is done by clamps. In both cases of hernia I had to enlarge the ring pretty freely in order to reduce the gut containing the button; this is a drawback, as it weakens the parts afterwards. I do not think it is likely that any patient will get rid of the button without knowing it. There was a good deal of discomfort and pain in both of my cases in which it passed. In Case 3 I presume that the button fell back into the stomach, though an x-ray photograph did not show it. In the Transactions of the Clinical Society for 1900 Mr. J. Hutchinson, jun., tabulates cases of Gangrenous Intestine in Hernia treated by Enterectomy with Murphy's button, and quotes 14 cases with one recovery, but this does not give, I think, anything like the ordinary percentage of recoveries. Taking the Royal Southern Hospital alone there have been five enterectomies done with the button, and of these four recovered—i.e., the two which I publish and two by the late Dr. H. G. Rawdon.[2] The notes of these four cases were read before the Liverpool Medical Institution.

[2] Brit. Med. Jour., vol. ii., 1898, p. 1320.

THE MEDICAL GOLF TOURNAMENT.—The medical golf tournament bids fair to become an annual institution. The tournament for 1901 will be played on June 6th on the links of the Mid-Surrey Club, Richmond, which have been lent for that day by the club. Competitors will be divided as last year into two classes and there will be a prize for each class. Play will be 18 holes *v.* bogey, with a foursome sweepstake in the afternoon. There will be also a prize for the best last nine holes *v.* bogey in each class. Entries, stating lowest handicap and enclosing 5*s.*, to be made on or before June 5th, to the honorary secretary, Mr. Rolf Creasy, Windlesham, Surrey. It is proposed to hold a dinner in London on the same evening if a sufficient number of gentlemen promise to attend; tickets 7*s.* 6*d.*, exclusive of wine.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Laboratory Meeting.

A MEETING of this society was held on May 7th in the Physiological Laboratory of Guy's Hospital, Mr. W. WATSON CHEYNE, the President, being in the chair.

Mr. W. C. C. PAKES demonstrated the apparatus which he had used for the Collection of the Gases produced by Bacteria. The gases were collected by the displacement of mercury, instead of over water or brine. He also showed a method of inoculating large flasks under strictly anaerobic conditions. He had found that the bacillus pyocyaneus and some other organisms which were generally regarded as anaerobic would grow aerobically when the culture medium contained nitrates.

Mr. PAKES also made a communication upon the Effects of Media containing high percentage (4 or 5 per cent.) of Nitrate upon the Morphological appearances of certain Bacteria. The bacillus pyocyaneus appeared like a cladothrix and the bacillus typhi almost like a blastomyces.

Dr. F. F. CAIGER, Dr. R. M. BEATON, and Mr. PAKES made a communication on the Value of Neisser's Stain in the Diagnosis of Diphtheria. They gave an account of 100 cases which had been admitted to the South-west Fever Hospital certified as suffering from diphtheria. These cases were diagnosed both clinically and bacteriologically, the former at the Fever Hospital and the latter in the laboratory at Guy's Hospital. The results showed that the two diagnoses agreed in 70 per cent. In 25 per cent. of the cases in which diphtheria was diagnosed clinically the bacteriological examination failed to show bacilli upon culture. In 5 per cent. the bacteriological examination showed the Klebs-Löffler bacilli when the clinical evidence was negative. They concluded generally that Neisser's stain made the bacteriological examination more easy than when only methylene blue was used. The disease could by this means be diagnosed in a fair proportion of cases from the examination of preparations made directly from the swab by the use of Neisser's stain. On account of the more distinctive characteristics of the bacilli after staining by Neisser's method the diagnosis of the disease bacteriologically could be made by those who could not be regarded as experts. It was a fact of great value that the bacillus could be revealed by the direct examination, without loss of time, of a cover-slip made from the throat swabs. In 18 out of 48 cases they had been able to accomplish this operation, which required, however, some manipulative and practical experience.

Dr. J. A. BUTLER and Dr. H. S. FRENCH gave a preliminary account of a Research upon the Nitrogenous Metabolism in Bright's Disease. The investigation had been carried out during a period of 41 days upon a boy, seven years of age, suffering from subacute nephritis. During the last 12 days of the period he had mild but distinct symptoms of uræmia. The estimations made were: (1) the total nitrogen in his daily intake; (2) the total nitrogen in his daily output of urine; (3) the nitrogen excreted as urea in his urine; (4) the nitrogen excreted as coagulable proteid in his urine; (5) the nitrogen excreted as uric acid in his urine; (6) the total nitrogen in his fæces; and (7) the nitrogen as "other bodies" in his urine. The conclusions arrived at were as follows: (1) that when the patient was most ill he was excreting more nitrogen than when he first came into hospital, whilst when he was better the urine and fæces together did not return as much nitrogen as his food contained; (2) that the relation of the nitrogen as urea in the urine to the total nitrogen in the urine was less than during health—namely, 75·6 per cent. instead of 86 per cent.; but that if the nitrogen present as coagulable proteid were first deducted from the total nitrogen in the urine then the nitrogen as urea formed 83·4 per cent. of the remainder; (3) that the relation between uric acid and urea was as 1 to 47·6, which was not very different from the proportions found during health by many observers, though less than the figure given by Haig as normal—namely, 1 to 35; and (4) that the amount of nitrogen in the fæces was relatively large—namely, 14·7 of the total in urine and fæces—whereas other observers had found, some 6 and others 11 per cent.

Mr. J. W. EYRE made a communication on the Differential Diagnosis of Strains of Pneumococci. In a previous communication by Dr. J. W. Washbourn and himself it had been pointed out that there exist varieties of the pneumococcus which at present could only be distinguished by the action of anti-pneumococcic serum. Out of six strains of pneumococci under observation at that time, which appeared identical in respect to their morphology and cultural reactions, Pane's anti-pneumococcic serum would protect against five but not against the sixth. The results of some previous observations on the reaction of various nutrient media and the method then adopted to obtain a standard reaction[1] were then described. Phenolphthalein was used as the indicator and the reaction thus estimated was shortly expressed by stating the number of cubic centimetres of normal acid or alkali required to exactly neutralise one litre of medium, the signs + and − being prefixed to indicate acidity or alkalinity respectively. It was also suggested, provisionally, that media having a reaction of +10 should be used as a standard for general work. In the course of some experiments to determine the "optimum reaction" for the growth of two special strains of the pneumococcus Mr. Eyre found that there was a constant optimum reaction for each. The two varieties of cocci employed were those numbered 1 and 5 in the paper previously referred to, and differed in that animals experimentally inoculated could be completely protected against strain No. 1 by the use of anti-pneumococcic serum, but the serum was powerless to protect rabbits inoculated with strain No. 5. Whilst No. 5 preferred medium having a reaction of +10, No. 1 selected +8. So marked was the preference of each of these two varieties of cocci for its respective "optimum reaction" that cultivations made in such media would give evidence of growth, macroscopically, in from five to six hours (at a temperature of 37° C.), whilst cultures in media of other reactions did not show sufficient growth to be visible to the naked eye under 10 or 12 hours. Broth cultivations of the two strains of pneumococci six hours old were exhibited.

Dr. J. H. BRYANT reported the Bacteriological Examinations of three cases of Ante-mortem Thrombi. In the first case, which was one of mitral stenosis and tricuspid regurgitation, extensive ante-mortem thrombosis of the pulmonary arteries was found at the post-mortem examination made five hours after death. Streptococci and the staphylococcus albus were found in cultures and microscopical preparations. In the second, which was a case of tuberculous peritonitis with thrombosis of the right lateral saphenous vein, a pure culture of the proteus vulgaris was obtained, the post-mortem examination, however, being made 20 hours after death. In the third, which was a case of diffuse carcinoma of the stomach with thrombosis of both saphenous veins, a pure culture of bacillus subtilis was obtained from the left saphenous vein and of staphylococcus albus from the right saphenous vein. The post-mortem examination had been made four hours after death. The relation of these bacilli to the thrombosis was discussed. The finding of non-pathogenic organisms like proteus vulgaris and bacillus subtilis was particularly interesting. The latter had possibly found its way into the blood-current through an old ulcer which the patient had on his leg.

Professor VAUGHAN HARLEY and Dr. WAKELIN BARRATT gave a demonstration of the Production of Hepatic Cirrhosis by Ligature of a Single Bile Duct. The change thus produced was limited to the area of the liver drained by the ligatured duct, and the rest of the liver remained unaffected. The general health of the animals operated upon was in no way altered. The change produced resembled that present in the human liver in cases of cirrhosis. There was an interlobular growth of fibrous tissue containing numerous bile-ducts of new formation. The hepatic lobules underwent atrophy and might entirely disappear. The largest bile-ducts were dilated and tortuous, but still contained bile even as long as 16 months after ligature. The subject was illustrated by lantern slides.

Dr. R. H. J. SWAN exhibited a specimen of Calcified Hydatids taken from the body of a man, aged 66 years, which had been discovered accidentally in the dissecting room. The patient had been admitted with bronchitis the day before death and no clinical history was obtainable.

Mr. J. H. TARGETT exhibited microscopic specimens from a case of Cirrhosis of the Liver.

[1] Transactions of the Pathological Society, vol. li., p. 283.

OBSTETRICAL SOCIETY OF LONDON.

Adjourned Discussion on the Pathology and Treatment of Puerperal Eclampsia, with Special Reference to Treatment by Saline Infusion.—Exhibition of Specimens.

A MEETING of this society was held on May 1st, Dr. PETER HORROCKS, the President, being in the chair.

The discussion on Dr. Hey Groves's paper on the Pathology and Treatment of Puerperal Eclampsia, with Special Reference to Treatment by Saline Infusion, was resumed by Dr. T. W. EDEN, who said that one of the points upon which all observers were agreed was that albuminuria was attended by a heavy fœtal mortality, from 30 to 77 per cent., and that the fœtus was imperfectly developed. It was important to note in this connexion that a diseased condition of the placenta was also frequently met with in albuminuria, and it seemed probable that this condition had much to do with the fœtal mortality and the feeble development. Without entering into detail, the placental changes might be said to consist of extensive infarction, which had been termed "pathological infarction" to distinguish it from the normal process in the adult placenta. Infarction in the healthy placenta had been shown to start in obliteration of the fœtal arteries; in "pathological infarction" arterial obliteration attained a greater degree of severity. The primary lesion was probably identical in the two. The toxæmic theory of the causation of albuminuria offered the best explanation of the clinical phenomenon of this disease and also of the occurrence of these placental lesions. The accumulation of toxins in the maternal blood would rapidly affect the quality of the fœtal blood and the changes in the fœtal arteries would then be due to the impurity of the blood flowing through them. The toxins might be formed in the maternal tissues, but there was something to be said for the alternative view that they were products of fœtal tissue metabolism. If the toxæmic theory of albuminuria was accepted the renal and hepatic changes must be regarded as mere incidents of the disease and not as the cause of it. The great objection to this theory appeared to him to be that it proved too much, for it would prove that every pregnant woman must suffer from albuminuria. There must in the first place be a deficiency in the normal rate of elimination, allowing of the accumulation of toxins in the blood and thus starting the whole train of symptoms. Sir Andrew Clark had described a condition of "renal inadequacy," due, not to definite changes in the kidneys, but to deficient elimination through those organs. It was possible that some such condition occurring during pregnancy was the primary fault on the part of the mother.

Dr. ARTHUR GILES said that in order to form a clear judgment as to the value of saline transfusion or any other therapeutic measure in the treatment of eclampsia it was necessary to make some further differentiation than was involved in speaking simply of eclampsia. It was necessary, in the first place, to distinguish between renal disease accidently complicating pregnancy and cases of albuminuria with toxæmia due directly to the pregnancy itself. In the second place, a distinction should be made between a condition of diminished or suppressed excretion and a toxic condition of the blood independent of such diminution or suppression. Primary renal disease was generally associated with imperfect elimination, and in such cases the value of saline injections was doubtful. Here it was preferable to rely on the measures applicable to cases of uræmia apart from pregnancy—viz., hot packs, diuretics, and free purgation. On the other hand, the toxis of pregnancy was not necessarily associated with faulty elimination, and in these cases the best results might be expected from the treatment advocated by Dr. Groves. There was a considerable difference in the prognosis also. In the case of primary renal disease the immediate prognosis was worse and there was little prospect of cure after delivery, whilst in the toxis of pregnancy the immediate prognosis was better, recovery after delivery was generally complete, and a repetition of pregnancy was not necessarily accompanied by a return of the symptoms. When saline injection was indicated some authors advocated that it should be combined with venesection in plethoric patients, and it appeared to him that there was a good deal to be said in favour of this plan. The injection of saline solution into the cellular tissue, under the breast or into the abdominal wall, was often easier and quicker than venous transfusion. It had also been said that it was more efficacious inasmuch as the fluid became mixed with the serum in the tissues before passing into the general circulation.

Dr. ROBERT JARDINE (Glasgow) said that he believed in the toxæmic theory of eclampsia. The toxin seemed to him to be a waste product of tissue metabolism. Dr. Eden had referred to the belief that on the death of the fœtus albumin lessened or disappeared. He (Dr. Jardine) had seen three severe cases of eclampsia with macerated fœtuses in which the albumin had been abundant. A very important point was how the maternal system dealt with the waste-products. In the first place, elimination by the alimentary canal was below the normal. Constipation was the rule in pregnancy and it was markedly so in eclampsia. He believed the toxin acted on the kidneys like turpentine and cantharadine. Albumin and often blood appeared, excretion was lessened, and there might be complete suppression of urine. He had brought with him sections from four livers, showing marked evidence of degenerative changes in the cells. He was convinced that the liver played an important part in the destruction of the toxin. He had published a case in which a second attack of profound coma had supervened on the fifth day in which the urine was heavily loaded with bile pigment. The kidneys had been acting very freely or otherwise the patient would probably have died. Dr. Groves believed that increased coagulability of the blood caused multiple thrombosis and thus brought about the fits. He believed that the fits were caused by the toxin acting directly on the nerve centres. The toxin seemed to him to affect the fœtus as it did the mother. He had found albumin in the urine in all cases examined. He had also found it in the urine of several infants whose mothers had had severe albuminuria without fits. Given a toxin in the system he thought the most rational form of treatment was one which aimed at clearing it out through the natural channels by acting on the bowels, the skin, and the kidneys. Diuretics by the mouth were too slow, but by giving a solution such as he used—viz., the normal saline solution with one drachm of acetate of soda to each pint—he claimed that diuresis was quickly established. By the second day diuresis was profuse, the poison was diluted, and the whole system was stimulated. To test the results of this method of treatment he gave statistics from the Glasgow Maternity Hospital. Dr. Munro Kerr had found that during the last 15 years 80 cases had been treated. The old methods had given a death-rate of 47 per cent. while with the saline infusions there was a death-rate of 24 per cent—a fall of very nearly 50 per cent. It must be borne in mind that they had to deal with very bad cases, many of them actually moribund. He personally had had three deaths in 22 cases. He had great faith in the saline infusion as a remedy.

Dr. MUNRO KERR (Glasgow) said that he was much in favour of the employment of saline infusion in eclampsia. Saline infusion was undoubtedly a most powerful though slow diuretic. In addition to having a diuretic effect the infusion acted as a cardiac stimulant and diluent to the poison. He quoted cases to illustrate these latter two effects of saline infusion. His position regarding saline infusion was that he considered it a most valuable adjunct to the general treatment of the disease. He did not advocate it to the exclusion of such drugs as morphia or chloral, which should be used only if there was much restlessness and the fits were not at once arrested by saline infusion. As regards the high fœtal and infantile mortality he thought that while occasionally deaths might be caused by changes in the placenta such as Dr. Eden had described it was most likely to be due to the same toxins. He mentioned a case that had been under his care in hospital a few days ago where the child of an eclamptic woman was born apparently strong, but had developed on the second day convulsions which were followed by coma and death. The infant's urine contained a large quantity of albumin.

Dr. AMAND ROUTH took exception to Dr. Groves's explanation of the way in which the convulsions were brought about—namely, that "the actual convulsions and coma resulted when these toxins caused the coagulation of the blood and the multiple capillary thrombi." He agreed with Dr. Herman that this point had not been proved. As a rule, saline transfusion had not been used till the fits came on, but if it were given in the pre-eclamptic stage the effect on the urine would prove a better test of its utility. They had heard the mortality statistics at the Glasgow Maternity

Hospital before and after this method of treatment, but they were not told what treatment had been in vogue previously to the introduction of the method of saline transfusion. In Dr. Jardine's and in Dr. Groves's cases the saline treatment was not used alone, but was supplemented by the administration of salts, hot packs, veratrum viride, &c. Whatever might be the value of saline transfusion in the pre-eclamptic stage it seemed to him that they would still have to rely on sedatives in the treatment of the actual eclamptic convulsions.

Dr. M. HANDFIELD-JONES thought that it was unscientific to talk generally of treating puerperal eclampsia by saline infusions, as if all cases of this complication were of the same nature and required the same treatment. It was quite true that the retention of toxic products in the system probably often accounted for the convulsions, but in other cases the fits seemed to be originated in the central nervous system. Undoubtedly, in certain as yet undemonstrated cases the injection of saline fluid was useful. Numbers of cases were cured by a single bloodletting, by the evacuation of the liquor amnii, or by the use of sedatives, and in such cases the transfusion treatment was absolutely unnecessary.

Dr. W. S. A. GRIFFITH quoted statistics from Queen Charlotte's Hospital to illustrate his remarks at the previous meeting. From January, 1899, to March, 1901, 2630 women had been delivered, and of these 135 (5 per cent.) had albuminuria, being 7·2 per cent. in primiparæ and 1·6 per cent. in multiparæ. Of these albuminuric cases six patients had eclampsia and they all recovered.

Mr. E. RUMLEY DAWSON disapproved of Dr. Japp Sinclair's statement that no general practitioner should miss the fact that a patient was suffering from uræmia. He (Mr. Dawson) thought that repeated urine testings were impracticable in a busy general practice. He had no personal experience of the treatment by saline infusion, but he thought that the difficulty and occasional danger of the operation should not prevent its being used by general practitioners.

The PRESIDENT said that he was not convinced by the cases published that in saline transfusion they had a remedy for puerperal eclampsia. As a fact there were already many remedies or modes of treatment, and whenever a disease or illness had several methods of treatment it generally meant that there was no known cure. Although pilocarpine was a dangerous drug in unsuitable cases, he believed that, judiciously used, it was a valuable mode of treatment in puerperal eclampsia. With regard to the injection of saline fluid he thought it was perhaps better not to inject it into the veins but into the cellular tissue and rectum; because it must be remembered that in these cases there had been no loss of blood and hence there was no underfilling of the vascular system as in cases of profound hæmorrhage, and moreover the blood-pressure was generally raised owing to the convulsions, and therefore it might not be without danger to add rapidly several pints of fluid. He did not for a moment believe that the blood would absorb the saline fluid from the cellular tissues or from the rectum to any dangerous extent, because it was a physical process (osmosis, &c.) and the blood would cease to absorb any more when the vessels were full. Nevertheless he could not help thinking that if there was any truth in the theory that puerperal eclampsia was due to a toxin circulating in the blood, and any truth in the theory that diluting the blood would cure or mitigate the fits, then blood should be drawn from one median basilic vein and saline fluid should be injected into the opposite one. Or at all events blood should be withdrawn from a vein and saline fluid should be injected into the cellular tissues and the rectum whence it would be rapidly absorbed and so restore the blood-pressure and at the same time dilute the blood. He considered that sufficient evidence had been brought forward by Dr. Groves, Dr. Jardine, Dr. Munro Kerr, and others to warrant further trial of this method of treatment in puerperal eclampsia.

Dr. GROVES, in his reply, dealt with the statistics of mortality of Veit's treatment of eclampsia by morphia and Charpentier's by chloral, but he said that other observers had not met with equal success. He thought that the minute hæmorrhages found in the brain, in the kidneys, in the liver, and in other organs surrounded by areas of necrosis were due to the morbid state of the blood and blood-vessels and not to the mechanical results of the fits. He advocated repeated saline transfusion when there were profound coma, cyanosis, and anuria, with chloroform during delivery.

The following specimens were shown:—

Dr. JARDINE: Microscopical Sections from a Liver in a case of Fatal Eclampsia.

Dr. MUNRO KERR: Dermoid Cyst of the Ovary successfully removed during Labour.

Mr. C. E. JENNINGS: Transfusion Apparatus.

Lieutenant-Colonel A. J. STURMER, I.M.S.: Perivagina Tumour containing (?) "Hydatidiform" Cysts (referred to sub-committee).

OPHTHALMOLOGICAL SOCIETY.

Exhibition of Cases, Specimens, &c.

A CLINICAL evening of this society was held on May 2nd, Mr. G. ANDERSON CRITCHETT, the President, being in the chair.

Mr. NETTLESHIP (for Dr. D. J. WOOD) read notes of a case of Pulsating Double Exophthalmos following injury to the head, cured by Ligature of the Left Common Carotid. The patient fell on his head from a bicycle and was picked up unconscious. The exophthalmos developed gradually, pulsation being very obvious, and the left carotid was ligatured 10 days after the accident. Pulsation was arrested immediately, but some signs of aphasia and paresis supervened which cleared up, marked improvement occurring after 24 hours. After operation vision in the right eye was $\frac{6}{9}$ and in the left it was $\frac{6}{24}$ owing to atrophy and scotoma. Pulsation and proptosis were permanently abolished.—Mr. TREACHER COLLINS referred to a case under his care two years ago resulting from a bullet wound. The missile was located by the x rays at the base of the basilar process; there was pulsating exophthalmos and the bruit was not only audible to the patient but to those near him; manual pressure was tried but it proved unsuccessful and Mr. T. H. Openshaw ligatured the common carotid with great benefit, though the condition recurred after eight months in less degree.

Mr. G. W. ROLL exhibited two cases of Congenital Ptosis in which Hess's operation had been performed with benefit. The elder lad had been operated upon three years ago and the cure was probably permanent. One year only had elapsed in the case of the younger, but in this the condition was bilateral and he had quite lost the habit of throwing the head back, common in these cases. Mr. Roll referred to Mr. J. B. Lawford's account of Hess's operation in the thirteenth volume of the *Ophthalmic Review*, but said that he preferred to leave the stitches in 14 days instead of 10 days and also inserted them nearer the free margin of the lid instead of midway between that level and the margin of the orbit.—The PRESIDENT cited five cases in which he had operated, of which two were permanently successful and three appeared to be drifting back to their original condition.

Mr. SIMEON SNELL exhibited a Sarcoma of the Right Orbit removed from a miner, aged 38 years, on Dec. 10th, 1900. A small nodule had been noticed eight months previously beneath the lower lid and had gradually enlarged till at the time of the operation the growth was of the size of a pigeon's egg, freely moveable, painless, and could be pushed back along the floor of the orbit. The globe was slightly raised. When removed the tumour was kidney-shaped, three centimetres long by two centimetres wide, definitely encapsuled, and made up of large spindle-shaped cells.

Dr. RAYNER D. BATTEN exhibited two cases of Serous Iritis with Tachycardia. The first patient, a girl, aged 14 years, had been one year under observation. The serous iritis was very marked and in January last a nodular deposit appeared in the inferior angle of the anterior chamber; this had diminished somewhat and become vascular. The tachycardia and thyroid enlargement had improved at one time and had then recurred. The second girl, aged about 20 years, presented well-marked serous iritis with synechiæ of the iris, there was persistent tachycardia with enlarged heart, tremors, and flushings, but no distinct enlargement of the thyroid gland. Dr. Batten had met with other cases of a similar kind, in one of which the patient suffered from a destructive sclero-keratitis with loss of the eye.—The PRESIDENT recalled two cases presenting this combination of symptoms.

Mr. G. HARTRIDGE exhibited a case of Choroiditis which had been shown in an early stage in December, 1898. Vision in one eye was $\frac{6}{9}$ and in the other $\frac{6}{6}$, though the fundus change in both seemed about the same.—The PRESIDENT referred to a somewhat similar peculiarity of vision in connexion with nebulæ; sometimes with a small area of

cornea involved vision was very defective, while in others with an apparently extensive opacity the patient could see wonderfully well.

Dr. A. S. PERCIVAL showed a pair of Periscopic Glasses. The lenses being concave allowed of lateral movement of the eyes, provided the paper read was slightly curved, without the distortion usually experienced while using lenses ground on the flat. The curve was so arranged that the circle of confusion, developed when looking 25° right or left, was not larger than the maximum sectional area of a retinal cone 0·002 millimetre.

Mr. W. LANG showed an infant with a Congenital Notch in the outer part of the Left Lower Lid and Dermoid Growths on the Eye. The latter were flat and more loosely connected than usual.

Mr. ADAMS FROST exhibited a girl with a variety of Malformations about the Face. There was a quadrilateral gap in the right upper eyelid, the lashes being absent, while above the eyebrow was a tuft resembling them. The caruncle was deformed; at the outer canthus there projected a mass resembling a lobe of the lacrymal gland. The development of the external ear was defective on the same side, and though there was no meatus hearing was not entirely absent. A dermoid structure existed near the right angle of the mouth, also projecting on the inner aspect, and there was a dimple on the left side as if something had been removed. The eye was healthy; there was no coloboma of the choroid.—Dr. JOHNSON TAYLOR said that dermoid growths on the cornea sometimes had deeper connexions than were apparent and required to be handled with caution to avoid perforating the globe.—The PRESIDENT recommended a blunt-pointed knife for the purpose.

Mr. C. BLAIR exhibited a Portable Refractometer which consisted of a spectacle frame carrying revolving discs fitted with glasses so arranged that an extensive range of lenses could be placed before each eye, saving time and trouble in retinoscopy and testing. The discs were five inches in diameter and the frame weighed eight ounces.

Mr. J. B. STORY showed a Thorn which had been buried in the iris at the edge of the anterior chamber for two months, the outer end being entirely obscured by lymph; when once discovered the removal had not been attended with difficulty.—The PRESIDENT said that he had found a splinter of wood in the anterior chamber of an eye that had been injured while the patient was chopping wood 12 years before. Some irritation had occurred on three occasions.

Mr. C. WRAY showed a case of Primary Chancre of the Lower Lid which had been inoculated by the finger-nail after scratching a specific sore.

Mr. WRAY also exhibited a man who had had Extensive Detachment of the Retina. There were 15 dioptres of myopia. The tunics of the eye had been twice punctured with a Graefe's knife at a fortnight's interval, after the manner described by Wolf. The eye in addition had been bandaged and instilled with atropin and mercury and chalk powder had been administered in two-grain doses thrice daily. The retina had become reapplied to the choroid and vision was $\frac{6}{9}$ and improving.—Mr. MARCUS GUNN said that the operation in question had been repeatedly performed before the account published by Wolf and could not rightly be associated with his name. In the present case there was still a little detachment and also some affection of the choroid resulting from the interference which no doubt assisted the re-attachment.—Mr. JOHNSON TAYLOR said that he had performed the operation two or three times, but he thought that in all the cases the patient's condition had been made worse.—The PRESIDENT said his own experience had been disastrous. In one case in which he had advised against the operation the patient had since undergone three operations in Paris at considerable expense and vision was only equivalent to J. 19, though previously it was J. 8.

Mr. WRAY also exhibited a case of Doubtful Exostosis of the Orbit (with skiagrams).

Mr. HOLMES SPICER showed a case of Spring Catarrh in a Quiescent Stage. The appearance was quite typical, the milkiness of the lids and the granular condition of the conjunctiva being well marked and showing the characteristic hexagonal pavement appearance. The patient had spent three years in Johannesburg, having attacks each summer, but he had suffered most of all when crossing the line at sea on his return when exposed to the greatest heat.—Mr. LANG expressed his opinion that it was of the greatest importance that rather uncommon cases of this sort should be shown at the society. He had under his care at the present time a child who had, in consequence of this complaint, been subjected to a plastic operation which had resulted in ptosis, pannus, and iritis. Had the condition been recognised no such treatment would have been undertaken.

Dr. A. H. THOMPSON showed a case of Double Temporal Hemianopsia with Optic Neuritis which occurred suddenly at 5 A.M. three weeks ago in a young woman in association with the vomiting of pregnancy. The outer half of the visual field was lost in both eyes, which presented the characteristic hemianopic pupil reflex, no contraction taking place when light was directed from the temporal side, though it was manifest when thrown into the eye from the nasal side. The discs showed the changes of neuritis. The lesion was probably of the anterior part of the chiasma.—Mr. GUNN suggested hæmorrhage into the pial sheath.—The PRESIDENT thought the indications were against the supposition of tumour.

Mr. J. H. FISHER showed a case of Thiersch's Graft of the Orbit employed after removal of the globe, retro-ocular tissue and lids for sarcoma of the sclerotic. There had been three operations. The skin was obtained from the arm and a month after the operation it had covered the orbit, obviating at once the slow process of granulation and the unsightly contraction of the eyebrow. Three other cases had been treated in a similar way with equally good results by continental surgeons.

HARVEIAN SOCIETY OF LONDON.

Deciduous Dentition as a Factor in the Health of the Child.

A MEETING of this society was held on May 2nd, Dr. F. W. COCK, Vice-President, being in the chair.

Mr. W. H. DOLAMORE read a paper on Deciduous Dentition as a Factor in the Health of the Child. He said that he thought the importance of this dentition was hardly sufficiently recognised and he proposed to emphasise this by, first, considering the part played by the septic condition of the mouth, induced by caries of the teeth as a predisposing or exciting cause of diseases in the child. Of these he mentioned ulcerative stomatitis, necrosis of bone, and enlarged lymphatic glands, which latter might become the seat of tuberculous growth, whence the system might be generally infected. He also was of opinion that if in an adult gastric and intestinal diseases could be due to oral sepsis, *a fortiori* this would also be the case in a child. Secondly, he referred to the fact that for eight years, between the ages of two years and 10 years, the child was dependent on the deciduous teeth for the important part which the mastication of food played in nutrition and that hence these teeth should from the beginning be regularly cleansed and caries arrested in its early stages. To emphasise these points he quoted statistics comparing the growth of a child during the eight years, from two to 10 years of age, with a like second period—from 10 to 18 years of age. These figures showed the ratio of growth of the first to the second period to be for a male child 75 to 61, and for a female 75 to 42; whilst the fact that in spite of decreased growth the child during the second period increased in weight far more than during the first suggested, he considered, that during the earlier period the nutrition of the child was not in excess of absolute need. He drew from these data the conclusion that the mastication of food could not be interfered with by the decay and extraction of deciduous teeth without impairing the health of the child. He suggested that the matter was of sufficient importance to merit the attention of school authorities, especially of such as had to do with the children of the poor.

Dr. COCK, after thanking Mr. Dolamore for his most interesting and valuable paper, emphasised the points of earliest cleanliness with the use of the toothbrush and the absolute necessity of examination also from an early period of the deciduous teeth by a dental surgeon.

Mr. J. SEFTON SEWILL said that he cordially agreed with Mr. Dolamore in his conclusions. It was pitiable to see the terrible wreck presented by the mouths of most young children brought to the hospital. Ignorance of the importance of systematic treatment of deciduous teeth was, however, confined by no means to the poorer classes, many parents of good social position being quite surprised to learn that it was possible to treat temporary teeth

conservatively. It was most important to fill temporary teeth as soon as decay was perceived, rapid onset of root absorption precluding in most instances the possibility of saving them after the pulp had become exposed. He could see no reason to doubt that the temporary teeth were as fertile a source of systemic trouble as were those of the permanent set; but though the part played by these latter was generally recognised, he believed that even in so excellent a paper as that read by Dr. William Hunter before the Odontological Society no mention had been made of the temporary teeth. It rested largely with the medical practitioner to advise parents of the importance of attending to their children's temporary teeth.

Dr. ALFRED EDDOWES expressed his belief that toxins collecting in carious teeth became highly concentrated and, just as by flowing backwards they set up tonsillitis and probably other throat troubles, so by flowing out of the mouth with saliva they frequently set up a circum-oral eczema which in some cases spread to all parts of the skin. He related a case of complete coma cured in a few hours by lancing a tense gum, and he said that he had seen a child pass highly acid, pale urine containing uric acid crystals apparently as the result of the worry and disturbance of teething. He asked if there was a better remedy than a little chloral dissolved in glycerine for application to the tender tense gums during teething.

Dr. E. CAUTLEY doubted whether teething ever gave rise to fits unless there was some strongly predisposing factor present. The deleterious effects due to septic infection of the mouth and alimentary tract from carious deciduous teeth were seen constantly and bad teeth also produced digestive disturbance through the food being "bolted" instead of being properly masticated. He thought that suitable diet after birth was of value in maintaining the nutrition of the deciduous teeth and he regarded all artificial modifications of milk &c. foods as inferior to unboiled milk for this purpose. The boiling of milk did undoubtedly render the salts less soluble. Suitable diet and oral asepsis were the only preventive measures available after the birth of a child. A judicious diet for the mother during her pregnancy and while nursing was also of considerable value.

Dr. C. S. JAFFÉ and Mr. HUBERT C. PHILLIPS also took part in the discussion, and Mr. DOLAMORE replied.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.—Ether and Chloroform.

AN ordinary meeting of this institution was held on April 25th, the President, Mr. EDGAR A. BROWNE, being in the chair.

Mr. D. DOUGLAS-CRAWFORD read notes of a case of Gunshot Wound of the Femur with a Wound of the Popliteal Vein, and showed the patient, a young man, aged 17 years. The wound of entrance was on the front of the femur just above the patella; the wound of exit was in the popliteal space. The popliteal vein was lacerated and was tied and the lower end of the femur was comminuted. Five months later the lower third of the shaft of the femur was much sclerosed and an opening on its outer side led into a cavity three inches long and three inches deep. This cavity was reduced in size by means of bone-grafting, sponge-grafting, and aseptic wax. The method of chipping the femur and packing the cavity with the pieces proved most useful in healing up this cavity.

Mr. DOUGLAS-CRAWFORD also read notes of a case of Gangrene of the Hand Associated with Temporary Glycosuria. The patient, a male, aged 49 years, had pushed his arm through a skylight and had wounded the ulnar artery and divided the ulnar nerve. Gangrene set in in two days, and as there was no apparent local cause the urine was examined and was found to be loaded with sugar. The sugar was present for 48 hours, after which it disappeared. The arm was amputated and the patient did well.

Dr. T. R. GLYNN introduced a patient, a male, aged 40 years, with symptoms of an Aneurysm pressing on the Left Bronchus. The physical signs in this and other cases of a similar character were the development of emphysema with lessened vocal fremitus and vocal vibration and with feeble respiratory murmur throughout the left lung. If the aneurysm did not rupture and the patient survived for a time certain pathological changes occurred in the lung and the patient was likely to die with symptoms of chronic lung disease, cough, expectoration, hectic, &c. Drawings were exhibited of the left lungs of two patients who had died under the conditions referred to. In one the organ was the seat of a caseating pneumonia breaking down; in the other scattered tuberculous foci were present. The impediment to the entrance of air into the lung seemed to have been followed by the development of tubercle. He believed that the lesion in both cases was tuberculous in character, though it had not been proved, the patients having been under observation many years ago before the discovery of the tubercle bacillus.

Dr. GLYNN also related a case of Paracentesis of the Pericardium on two occasions, with recovery. A boy, aged 17 years, had pleuro-pneumonia 18 weeks before admission and had never recovered. During the illness some clear fluid had been aspirated from the left side. The chief symptom on admission was dyspnœa (the respirations were 30 per minute when he was propped up in bed). The pulse, which was 120, was soft and irregular. Physical examination revealed dulness over the præcordium, extending $2\frac{1}{2}$ inches to the right and 5 inches to the left of the mesial line at the height of the nipple, and lower reaching as far as the axillary line. The apex beat was absent, and the heart sounds were feeble. The temperature was normal. At the end of a fortnight the pericardium was aspirated and 14 ounces of clear fluid were removed. The urgent symptoms were relieved, the apex beat became perceptible, and pericardial friction sounds were audible for the first time. In a month's time the fluid had re-accumulated and 23 ounces of clear fluid were removed. On this occasion a mercurial manometer was used to estimate the pressure of the fluid in the pericardium, by means of a T-tube behind the aspirating needle. The pressure at the commencement of aspiration was + 2·1 centimetres, and at the end of the operation it was − 2 centimetres. No organisms were discovered in the fluid. The pericardial friction sounds again returned, but in a week or two these disappeared, and there was no evidence that the effusion had recurred. The patient left the hospital at the end of March, 1901, apparently well, but he had just been readmitted with a return of the effusion.—Mr. R. W. MURRAY, Mr. G. P. NEWBOLT, Dr. T. R. BRADSHAW, Dr. J. BARR, and Dr. J. H. ABRAM discussed the case and Dr. GLYNN replied.

Sir WILLIAM M. BANKS read a paper on Ether and Chloroform. Commenting upon the value of physiological experiments and statistical commissions he held that neither had been of the least use in aiding them in their search for the best anæsthetic or the best method of using it. Physiological experiments as to the effects of chloroform carried out on healthy animals could not form comparisons when dealing with diseased, anxious-minded, nervous human beings. The recently-published Report of the Commission on Anæsthetics of the British Medical Association did not disclose anything that they did not know before, but it was of value in preventing future investigators from going over the same ground. With reference to the question of dosage so much depended upon the idiosyncrasy of the patient and the knowledge of the drug and experience of its administration on the part of the anæsthetist that nothing could be expected from mathematical regulation of dosage. The fundamental principle in the giving of anæsthetics was "plenty of air and plenty of anæsthetic." Discussing the dangers of ether and chloroform he pointed out the danger of taking a long time to put the patient under with small doses of chloroform, for by the time anæsthesia was produced the patient had inhaled a large quantity of anæsthetic and had gone under very deeply. Sir William Banks considered that the great dangers were (1) overdosage; (2) too small an allowance of air; and (3) violent repression during the stage of excitement. With regard to ether the danger was in the accompanying secretion of sticky mucus, which was apt to choke up the respiratory passages, and the after-irritation of sickness. With regard to the methods of revival attention was drawn to the very markedly stimulating effect of rubbing the lips and nose vigorously up and down with a towel. As to the method of administration he thought that the simplest means and forms of apparatus were the best, and he advocated the administration of brandy in from one- to three-ounce doses, given with very little water, immediately before anæsthetisation. If this was gulped down like a nauseous drug it would not be vomited. He mentioned the "dread" of the anæsthetic as being a bad preparation for the patient, and he pointed out that this was undoubtedly fostered by the knowledge of

coroners' inquest. He suggested that the British Medical Association might well bring power to bear upon a coroner, so that if a death from an anæsthetic should be reported it should be treated in the same way as would be a death from operation, public inquiry being dispensed with unless there was cause to believe that there had been neglect or administration by an unqualified practitioner. Finally, he advocated more systematic teaching. Hospital anæsthetists should take a share in hospital teaching and should be entitled to a share of clinical fees. Each student should be required before getting his certificate of dresserships to have his card signed by the anæsthetist to the effect that he had administered so many anæsthetics under supervision.—Mr. RUSHTON PARKER agreed with almost all that Sir William Banks had said, and could not too strongly urge the closest attention to the respiration, and while giving plenty of anæsthetic vapour, giving also plenty of air by not holding the inhaler too close to the patient's face. It was also a most dangerous thing to allow fluids to enter the air-passages—a condition that might at any time occur insidiously and asphyxiate the patient. While all professed to be aware of this fact many failed to perceive it when it occurred. The state of the patient should be one of comfortable warmth also, as he had seen dangerous symptoms arise in the contrary condition, owing apparently to the consequently impeded general circulation. The value of prompt inversion when danger was sighted or suspected could not be over-estimated, and of all routine devices it was probably the safest, by allowing liquids to flow out of the air-passages and by favouring the nutrition of the circulatory and respiratory nerve centres. By "watching the respiration" he meant never allowing the slightest impediment to the due entrance of the necessary vapours to the lungs and their free exit.—Mr. F. W. BAILEY, in reading the report of the Anæsthetics Committee of the British Medical Association had been struck by the number of methods of administration, amounting to 45 in all. He referred to the shock of extensive operations, the idiosyncrasy of patients, and the accumulation of mucus as all tending to contribute to the collapse that had been spoken of, and he strongly advocated the better teaching of the subject of anæsthetics. —Dr. J. E. GEMMELL agreed as to the greater safety of ether and he considered that the objections to its use—viz., the secretion of sticky mucus and struggling—were both obviated if the patient to begin with was placed with the head and shoulders raised, so that the act of deglutition could be accomplished without effort and if in the administration only small quantities of ether were used to begin with, say one drachm instead of half an ounce being put on the sponge at a time.—Mr. W. FINGLAND, Mr. R. G. SHELDON, Dr. F. S. PITT-TAYLOR, Dr. A. C. RENDLE, Dr. W. M. CAIRNS, Dr. JOSEPH WALKER, Mr. A. B. GEMMEL, Dr. HAMILTON, Dr. F. E. MARSHALL, and Dr. BARR also took part in the discussion and Sir WILLIAM BANKS replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Chronic Gastric Ulcer.—Unusual Cases of Pulmonary Disease.

A MEETING of this section was held on April 12th, Sir GEORGE DUFFEY being in the chair.

Dr. WILLIAM CALWELL (Belfast) read notes of cases showing the effects produced by Chronic Gastric Ulcer. First a number of cases of perforation were cited; these all showed adhesions, in nearly every case strong and extensive, a thickened ring of indurated tissue around the perforation, and a history of years of gastric trouble. Three cases of very chronic adhesion, causing complete invalidism, were next detailed; these had been operated on, with considerable relief in two. Finally, three cases of dilatation of the stomach, due (certainly in one, probably in all) to pyloric or duodenal stenosis following ulcer and adjacent inflammation, were given. The conclusions drawn from a study of these cases were that better results would be obtained if a definite period were allowed for the trial of ordinary therapeutic methods, and that when the limit was reached exploratory laparotomy should be resorted to. As far as his experience went hydrochloric acid was absent from the stomach in cases of cancer.—Professor E. J. MCWEENEY said that for the last year or so he had tested the vomit from suspected cases of gastric cancer for hydrochloric acid in the Mater Misericordiæ Hospital, and the indication given by its absence was, in the main, found to be correct. Originally he had placed no faith in this test, but his recent experience induced him to alter that opinion.—Dr. THOMPSON said that last year he brought forward a case in which there were all the symptoms of acute perforating gastric ulcer, but on operation there was no sign of gastric ulcer to be found.

Professor JAMES A. LINDSAY (Belfast) read some notes on a series of Unusual Cases of Pulmonary Disease. The series included three cases of malignant disease of the lungs, two cases of pyo-pneumothorax with broncho-pleural fistula, a case of pneumonia with delay of crisis until the twentieth day followed by recovery, and a case of plastic bronchitis. In the first of the three cases of malignant disease of the lungs the primary deposit was in the gall-bladder; in the second the pulmonary invasion followed an osteo-sarcoma of the knee-joint; and in the third the primary disease was scirrhus of the mamma. Cough, dyspnœa, and thoracic pain were present in all the cases and hæmoptysis in two out of the three. The physical signs presented much diversity. In the first case the signs were dulness, loss of breath-sounds, and diminished tactile fremitus over the affected area; in the second case the signs simulated those of phthisis and consisted chiefly of scattered areas of dulness and of crepitation in the right lung, the apex not being affected; in the third case the signs were for a time simply those of general bronchitis. In all the cases pressure signs appeared at a late stage. The difficulty of early diagnosis in these cases was dwelt upon. The most important points seemed to be thoracic pain, dyspnœa out of proportion to the physical signs, the nature of the expectoration, and the presence of physical signs of consolidation or infiltration in the substance of the lung or at the root. The history was very important. The pressure signs, which made diagnosis easy, might appear only towards the close. Emaciation, night sweating, and pyrexia might all be present in malignant disease of the lungs. The distinction from phthisis rested mainly on the absence of bacilli from the sputum, the nature and localisation of the physical signs, and the history and progress of the case. The duration of these cases was given by Walshe as 13·2 months, which was probably an over-estimate. In the cases of pyo-pneumothorax with broncho-pleural fistula the point of interest was that each patient made a good recovery without operation. The question whether free incision and drainage should be practised in these cases was raised and discussed, but no decided opinion was expressed. It was a question whether, with a free outlet for the pus through the trachea, the patients' prospects would be improved by the method of surgical procedure which succeeded so well in ordinary cases of empyema. In the case of pneumonia with delay of crisis to the twentieth day, followed by rapid convalescence, the patient was a boy, aged six years, in whom pneumonia of the left base was followed by pneumonia of the right apex without any break in the temperature, which remained at 105° F. for some time. The delayed crisis was no doubt due to the second attack having overlapped the primary attack. A delayed crisis might occur in senile patients without obvious cause or it might be due to some complication, especially empyema. In the case of plastic bronchitis the symptoms were mainly those of spasmodic dyspnœa. The casts varied in length from half an inch to one and a half inches, and in diameter from that of a coarse thread to that of a fine toothpick. The diagnosis rested entirely upon an examination of the sputum. The patient made a complete recovery after residing for some time in the interior of Cape Colony. These cases were very rare and the medical treatment was unsatisfactory. The pathology was still unsettled.—Sir GEORGE DUFFEY said that plastic bronchitis was very rare. He had only known one such case; it occurred in a relative of his and the first symptom was hæmoptysis coming on suddenly.—Dr. DOYLE said that he had had three cases of malignant disease of the lungs, one of them being under his care at the present time. In all of them extension had taken place from the breast. In the case now running its course there was no hæmoptysis and very little expectoration, but there was marked pain.—Sir J. W. MOORE, Dr. TRAVERS SMITH, and Dr. DEMPSEY also spoke.

HULL MEDICAL SOCIETY.—The ordinary monthly meeting of this society was held in the board room of the Hull Royal Infirmary on April 12th, Mr. T. M. Evans, the President, being in the chair.—Dr.

E. M. Hainworth showed an Amputation Neuroma existing along with keratinous horn.—Dr. D. Lowson showed a Fimbriated Growth from the Knee-joint.—Dr. H. W. Pigeon showed (1) a case of Excision of the Knee-joint which had resisted other methods of treatment; and (2) a case of Hydrocephalus in which pressure on the pyramidal tract had been evidenced by the presence of Babinski's sign. He was treating the case by draining from the fourth ventricle and in the meantime with considerable success. Since draining the above sign had disappeared.—Dr. Hainworth suggested that a better means of draining might be into the arachnoid space, hoping thus to establish a communication between the ventricles. There would, he thought, be less danger of sepsis.—Dr. Eve read a short paper on Babinski's Sign, illustrated by cases and with an abstract of the literature on the subject. The sign consisted in extension of the toes, especially the great toe, when the sole was tickled. The sole should be warm and dry and the outer part should be stimulated. The presence of the sign enabled the diagnosis of organic disease of the upper motor segments to be made, but its absence did not disprove pyramidal tract disease. It was never present in health (except in infants) or in functional paralysis. It was invaluable in recent organic hemiplegia when the tendon reflexes were still slight. Dr. Eve had made the sign part of his routine examination in hospital work for a year and had observed no exceptions. He thought this sign of decided value, but he complained that in many cases the rivalry between the normal and pathological reflex (i.e., flexion and extension of the toes) left the nature of the response uncertain.—Dr. Lowson read a paper on a case of Ruptured Duodenal Ulcer. The patient was a girl, aged 15 years, with symptoms of perforation, and certain signs connected with the symptoms pointed to the duodenum as the ruptured viscus. Her illness began in the end of February with pain in the left side. A fortnight later she had a series of rigors with much depression and cyanosis about the lips and nose. On March 17th a sudden attack of profound collapse supervened with severe pain to the left of the umbilicus, feeble voice, great pallor, and cold perspiration. On the 20th there was a good deal of vomiting, consisting of bile and fragments of partially digested milk curd. This ceased on the 25th, when the temperature ran up, the pulse increased in rapidity and feebleness, and the whole abdomen distended slowly. Dr. Lowson was called in on April 4th. The patient had then a foul-smelling breath and a small and feeble pulse, and her breathing was quick, shallow, and thoracic. There was uniform distension of the abdomen, and below the liver to the right of the middle line there was a distinct localised swelling with the convexity forwards and extending below the level of the umbilicus which projected somewhat. There was much pain and tenderness over this prominence and at the umbilicus. On percussion the area of prominence was distinctly dull and the dulness joined that of the liver, which extended well up to the axilla and was bounded by the ordinary lung note. Here there was strong presumptive evidence of the rupture of a hollow viscus and the remarkable thing was that in a case of such magnitude the patient should survive three weeks. The following day the parents consented that the abdomen should be opened, but on examination Dr. Lowson found that a remarkable change had taken place in the physical condition of the patient. The localised swelling had disappeared and the area of dulness now gave a clear tympanitic note on percussion, while the liver dulness was normal. The patient had been intensely sick during the night and had ejected a large quantity of foul-smelling matter. Dr. Lowson thus explained the change. At the outset of the sickness the contents of the abscess were forced back into the stomach through the ruptured ulcer and ejected by the mouth, their place being taken in turn by gases from the stomach, hence the change from a dull to a tympanitic note. The abdomen having been opened by a vertical incision through the outer part of the rectus muscle, on first entering the peritoneum some gas escaped and then a gush of matter with some solid shreds, which was recognised as coagulated lymph, and pieces of partially digested food. The odour of this matter was most putrid. The cavity having been flushed and sponged out was found to be bounded by coils of adherent intestine covered with granulations on all sides except above, where the liver adherent to the edge of the thorax helped to form a boundary, and on the right side where the abdominal wall alone bounded the cavity. An offshoot of the general cavity extended to the left as far as the umbilicus and this Dr. Lowson thought might explain the tenderness in this situation. A rupture of the size of a No. 6 catheter was found in the duodenum and the contents were seen issuing from it. After disinfecting and scraping the granulations round the hole he inserted Lembert's sutures of fine silk, introduced a gauze drain, and closed the wound. There was now some pus still draining, but the condition of the patient was good. Dr. Lowson concluded by indicating the points of interest in the case. The patient's position in bed was favourable to the formation of adhesions and the issue of the contents was slow because the opening was a small one, hence none of the fluid got between the liver and the ribs, the former becoming firmly bound to the latter, thus preventing all access to its upper surface. There could therefore at no time have been disappearance of the hepatic dulness. Dr. Lowson's experience had led him to the conclusion that this was a sign of most uncertain occurrence requiring a copious out-rush of gas to produce it, or, at any rate, unless this took place not to be elicited at the onset of the symptoms, and (as in this case) where the liver adhered to the side it could not take place at all. He had arrived at the diagnosis of ruptured duodenum rather than the stomach from the rule laid down by Penrose and others that a subphrenic pneumothorax to the left of the falciform ligament of the liver was always gastric, while that to the right was always duodenal. The last point of interest was the situation of the abscess. As a rule, these were said to be situated immediately below the diaphragm and were called subphrenic pneumothorax or abscess. This case was then exceptional. The reason was that evidently, as a rule, the gas rushed out and separating the liver from its close apposition to the side allowed the exuding liquid to flow up between the liver and the diaphragm. But here apparently with a slow outflow and little gas, as shown by the dulness to percussion when first seen, the liver was not pushed away but remained in its normal position, while the acrid fluid washed its under surface and border setting up a peribepatitis in these parts. The liver thus became glued and ultimately firmly fixed to the side in its usual position. The whole process was exceptional in some points but was easily explicable and in every way most interesting.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on April 19th, Dr. Patrick Manson, the President, being in the chair.—Dr. Louis Sambon read a paper on the Principles Determining the Geographical Distribution of Diseases. After a reference to the inquiries and speculations of previous workers in this field, culminating in the classical treatise of Hirsch, Dr. Sambon said that it was necessary, in the first place, to have a clear conception of what constituted a disease. The nature of some diseases had been thoroughly investigated, but of others they really knew little. Specific organisms had been proved to be the essential causes of many infectious diseases and were properly assumed by strict analogy to be so in the case of others, though they had not yet been isolated and identified, but beyond this class bacteriology had afforded little help. The earliest parasite recognised was that of scabies, which was well known to the Arabian physicians, but in the West itch was explained by humoral hypotheses until in 1834, when the acarus was demonstrated by a Corsican student at Paris, and the latest discovery was that of the hæmatozoa of malaria. For the rest, the conventional classification of diseases according to the organs involved was unscientific, involving needless repetition; they ought to be described according to their causes, whether mechanical, chemical, parasitic, or otherwise, though this, of course, could not be done in the case of those the causes of which were ill-understood. Many, indeed, might be parasitic which were at present ascribed to totally different causes, e.g., gout and scurvy, which could not be wholly ascribed to dietetic errors, having a limited geographical distribution, and similar diseases being observed in beasts and birds. Others were deemed communicable or hereditary, but heredity meant infection. Leprosy was till quite recently held to be hereditary, as at one time were intestinal worms, while even syphilis was ascribed to meteorological influences. The study of the diseases of animals and of plants afforded evidence of the important part played by parasites, and lesions identical with those produced by alcoholism in man when met with in animals must find some other explanation. Cancer was probably parasitic, as also were many other so-called

neoplasms. Galls in plants, the parasitic origin of which was undoubted, presented striking resemblances to papillomata, epitheliomata, carcinomata, acromegaly, &c. The actual process was unknown, but the growth was not excited by the eggs, for it did not begin until they were hatched, and it ceased on the death of the larvæ. Probably all parasites were originally independent organisms, but once having become parasitic they underwent a process of specialisation, which, as in the limbless females of the strepsiptera, might be one of adaptation by degradation. Every animal and plant had its fauna and flora, and each parasite its host, one or less often two in succession. The areas of parasitic diseases were wide (typhoid fever, tuberculosis, dysentery), narrow (beri-beri), spreading (cholera, yellow fever), shifting (plague), or retiring, with change of conditions. Malaria had thus disappeared from England with the extinction of the anopheles and appeared with its introduction in Mauritius in 1868, while in Southern Italy it had subsided under the Roman Empire but had reappeared later. When animals and plants were supposed to have originated *in loco quo* climate was held to be the determinant factor, whereas we now knew it to be rather competition and adventitious aids, as the presence or absence of enemies, or in the case of plants of friendly insects or algæ. The parasitic nature of filariasis was shown by Dr. Manson many years ago, that of malaria by Major Ross quite recently, and it was now strongly suspected that yellow fever also depended on a hæmatozoon, having, too, its insect host. The spread of enteric fever in camps and its disappearance in the cold season were partly due to the action of flies in conveying infective matters in this, as, perhaps, in lesser degree, in diphtheria, small-pox, &c. The long immunity enjoyed by Europe from the plague was in part rightly ascribed to the advance of civilisation, but our knowledge of its laws was imperfect. No doubt sanitation in its widest sense would prevent the recurrence of "black deaths," but they had to reckon with rats and fleas. The connexion of the former with the spread of the infection, recognised by many native races of Asia, seemed to have been known to the ancients, for the Medes represented the god of the plague as riding on a rat, but it was not so as regards the flea, which was doubtless the immediate link between the rat and man, unless the strongly perfumed amulets and oiled linen worn by the Persians and recommended by the Arabian physicians during epidemics were intended for protection against their attacks. In conclusion, he maintained that the same laws governed the distribution of parasites and of other living things and predicted an ever-widening extension of the doctrine of parasiticism to the etiology and pathology of diseases in which it had not as yet been suspected.—Colonel Kenneth McLeod, I.M.S. (retired), pointed to Devonshire colic and the recent epidemic of peripheral neuritis in Lancashire as showing that local distribution alone was no evidence of a parasite causation, though, on the other hand, the limitation of elephantiasis arabum to littoral and insular climates was now explained to be dependent on climate only so far as this affected the distribution of the filaria and its other hosts.—Professor C. H. Stewart referred to the value of Pettenkofer's researches on the great influence of meteorological conditions on the prevalence and distribution of cholera, typhoid fever, and other parasitic diseases.—A Naval Surgeon remarked that the diseases with which he had to deal were mostly parasitic and were preventable by simple precautions; thus beri-beri attacked those men only who did not eat fat. It was a peripheral neuritis, and it was possible that the Lancashire disease also might be parasitic, the arsenic merely rendering individuals vulnerable thereto.—The President observed that alcoholism might be considered as a germ disease, being caused by a toxin formed by a microphyte though outside the body; such, too, was beri-beri. Dr. Sambon might have greatly widened the scope of his brilliant speculations if he had not treated germ diseases as exclusively parasitic, for many were due to micro-organisms altogether external. He remarked that the edible root of the potato was now held to be the result not of cultivation but of disease, a tumour caused by bacterial infection and not produced in plants raised from imported seeds and grown in sterilised earth.—Dr. Sambon, replying, remarked that peripheral neuritis appeared to follow so many causes that no one could be considered primary. In Italy it occurred as local epidemics that could not be explained by alcohol, arsenic, or any other of the commonly assumed causes.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on May 8th, Dr. J. C. MacVail, the President, being in the chair.—Dr. Eustace Hill (medical officer of health of the county of Durham) read a paper on Sewage Disposal in Rural Districts by Bacteria Contact Tanks. He said that it was only quite recently that the true nature of the process of the transformation of the organic matter of sewage had been understood. For many years broad irrigation and downward intermittent filtration were the only methods recognised by the highest authorities, and they were still the most satisfactory where suitable and sufficient land was set apart. Even so late as March, 1894, a reviewer in *Public Health*, the official organ of the society, pronounced the Scott-Moncrieff process and the principles on which it was based—viz., the peptonising action of certain bacteria and the nitrification of organic matter by others—as "unworthy of serious attention," reserving his praises for processes which, aiming at the destruction of the bacteria, in direct opposition to Nature's method, have proved utter failures. About that time Mr. Dibdin's experiments on the treatment of sewage in coke filters and their practical application at Sutton in Surrey showed that the whole of the suspended, and most of the dissolved, organic matter could be removed from crude sewage by bacterial agencies alone without the use of chemicals. Mr. Cameron of Exeter also availed himself of the action of bacteria in his "septic tank," in which the sewage was submitted to peptonisation by anaërobes before being passed through filters for nitrification by aërobes. Dr. Hill then gave an account of his experience with the bacteria contact tank at South Moor, a mining village with a public water-supply guarded against waste but no baths or water-closets, the sewage being consequently concentrated, urinous, and soapy and not over 10 gallons per head. While the population did not exceed 1000, the sewage was satisfactorily disposed of by downward intermittent filtration on two acres of land, the effluent passing without offence into the Stanley Burn which provided part of the populous village of Chester-le-Street with drinking water; but when within the last few years the population rapidly increased to four times its former number the filtration was insufficient, the river became polluted, and an outbreak of enteric fever at Chester-le-Street suggested to Dr. Hill and the district surveyor the construction on the same site of contact tanks like those at Sutton, the beds themselves having an aggregate area of half an acre and treating daily a dry-weather volume of 46,000 gallons of sewage from 4600 persons, to which storm waters were from time to time added to several times the volume of the sewage. The sewage was passed through a small detritus chamber and a half-inch vertical screen to a subsidence tank $35 \times 39 \times 5$ feet and holding 24,000 gallons, or about half the daily discharge. When this was full, usually after 12 hours, it was discharged on to the surface of the coarse filter-tanks in rotation. There were four of these, of brick and concrete, each 43 feet square by five feet deep, their total area being 820 square yards and their capacity 185,000 gallons. They were filled with broken and screened coke breeze and clinker from one to two inches in diameter, the capacity of each for sewage being a little over 20,000 gallons. On the floor of each was a diagonal network of open-jointed drain pipes, and an outlet pipe with screw-down valve communicated with a central chamber from which the effluent was conveyed by a channel to, and discharged over, a weir into the fine filter-tanks, the construction and arrangement of which were similar to those of the coarse filters, save that their area was larger and their depth less, being three feet only, the capacity of each for liquid being 25,000 gallons, and the filtering material being screened to a size of from a quarter of an inch to one inch. The collecting pipes were fewer and the effluent pipe, when its stop valve was opened, discharged directly into the stream. The height of the liquid in the several tanks was seen in four-inch drain-pipes standing vertically in each. As each filter tank was emptied the air taking the place of the liquid supplied the oxygen necessary for the activity of the microbes. At first the sewage was, as at Sutton, held up in the successive tanks for not more than four hours, but it having been found that the nitrification of the night flow remaining undisturbed for 12 hours was more perfect longer periods of contact, from eight to 12 hours, had since been adopted with the best results. Dr. Hill's inquiries as to the working of automatic arrangements elsewhere had not been satisfactory, and he relied at South Moor on an intelligent attendant.

The final effluent was invariably clear, bright, and wholly devoid of smell. From the first the results had been highly satisfactory, but since May, 1899, when after three months' working bacterial action was fully established, the organic ammonia had averaged 0·072 part per 100,000. Analyses of the effluent taken after many days showed the absence of further putrefactive changes and that there was no need for subsequent filtration through the soil—a condition of all loans from the Local Government Board. The whole cost was accordingly paid out of the current rates and it worked out at no more than 7*s.* 3*d.* per head of the population, while that of maintenance and the services of the attendant for three or four hours daily was but £30 per annum. The nature of the material used for the filters, whether coke, clinker, burnt ballast, or crushed rock, was of no importance, nor was the size of much moment provided that it was not too small, not under a quarter of an inch in the fine filter. There must be a difference of level of at least eight feet between the sewage and the outfall, or, if as at South Moor a collecting tank were interposed, of 12 feet. Where this could not be had it would be well to substitute the septic tank, which should discharge its effluent on to a fine filter bed for nitrification.—Dr. H. R. Kenwood said that the installation described by Dr. Hill was working under very favourable conditions, for the coarse beds were fed at a rate not exceeding from 90,000 to 100,000 gallons per day per acre, and though the sewage was strong their work was greatly lightened by the previous sedimentation. He preferred the principle of automatic mechanism, duly supervised, to manual labour alone, as tending to greater regularity in the feeding and emptying of the beds.—Remarks were also made by Dr. J. W. Hembrough (Northumberland), Mr. Richards (Croydon), Mr. Beale Collins (Kingston-on-Thames), and others.

HUNTERIAN SOCIETY.—A clinical evening of this society was held on April 17th, Dr. Dundas Grant, the President, being in the chair.—Dr. W. J. McC. Ettles showed a case of Ascites lasting since 1897. In February of that year the patient, a female, underwent an operation at the London Hospital and six weeks afterwards a second operation. She then came under the notice of Dr. Ettles who had since tapped her 28 times and had removed 566 pints of fluid. At first the interval between each tapping was three and a half months and 29 pints of fluid were removed at a sitting. Now only six weeks elapsed and only from 16 to 18 pints were removed. A hard mass could be felt in the hypogastrium after the abdomen was emptied. There was no swelling of the ankles, hence the obstruction must have affected the portal vein only.—Mr. J. H. Targett quoted two cases which occurred some years ago in which there had been some hundreds of tappings performed at intervals of from 10 days to three weeks. In both of them double papillomatous growths of the ovary were found.—Dr. Ettles next showed a case of Tumour over the Right Clavicle of Doubtful Origin. Two and a half years ago the patient had syphilis. The Crookes tube and fluoroscope were applied to the patient during the meeting and marked swelling of the clavicle was seen, thus pointing to the probability of the tumour being a gumma of the periosteum.—The President, Mr. H. L. Barnard, Dr. T. Glover Lyon, Dr. Adams, and Mr. H. W. Carson discussed the case.—Mr. Barnard showed a case of Spiral Fracture of the Tibia. The patient, a man, aged 44 years, fell while carrying a sack of coals downstairs. He was admitted to the London Hospital with a fracture of the right tibia in the lower third and of the fibula in the upper third. A skiagram showed the fracture of the tibia to be a spiral one. For 10 days every effort was made to fix the fragments in a good position upon splints, but without success. As the patient recovered from the anæsthetics the fragments slipped over one another and the lower end of the upper fragment threatened to perforate the skin and to make the fracture compound. The following operation was therefore performed 10 days after the accident. An incision half an inch long was made down to the subcutaneous surface of the tibia and one and a half inches above the pointed end which was threatening to perforate the skin. The fragments were firmly held by an assistant in as good a position as possible. A drill which was only a little smaller than the screw was then driven across the fragments obliquely. As the drill was withdrawn the screw was slipped into the hole and screwed home. It was felt to draw the fragments together and to lock them firmly. The sharp lower end of the upper fragment retreated from the skin. A cyanide gauze dressing was applied and the leg was placed upon a back splint with a foot-piece. The screw was silvered steel. After 10 days the leg was put up in plaster and the patient went about on crutches. The screw was removed six weeks after it had been inserted. It could not be withdrawn like a nail or a tooth, but required to be unscrewed. It is better to remove such screws, as even after years they may give rise to abscesses, sinuses, and necrosis. The result of this simple operation, as viewed by the fluoroscope at the meeting, was seen to be good. The fragments were in line, firmly united, and there was no redundant callus.—Dr. Glover Lyon showed three cases upon an x-rays screen. The first was a case of Aneurysm of the First Part of the Aorta which two years ago had not been discovered upon first examination, but was at that time rendered plainly visible upon the fluoroscopic screen. The second case was one of Arrested Phthisis of six years' duration, the patient being now nearly a stone heavier than when first seen. The third case showed a generally Dilated Heart. The x-rays apparatus used at the meeting, lent and worked by Mr. Harry Cox, was fitted with the Mackenzie-Davidson break and gave perfectly steady shadows upon the screen.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on May 2nd.—Mr. W. Pooley showed specimens of a Dermoid Cyst which had simulated spina bifida. The patient, a girl, 17 years of age, complained of a painful tumour at the lower end of the spine on the left side. A corresponding tumour on the right side had been removed in infancy. The patient had never attended school because she could only sit by crossing one leg under her and sitting on that. Examination showed a globular swelling over the sacrum of the size of a large orange. The size was the same whatever the position of the patient. There were three or four sinuses discharging pus. The legs were well developed; there was no loss of control over the rectum or the bladder. The curve of the sacrum was exaggerated. Nothing abnormal could be detected per anum. The diagnosis of spina bifida was made and it was decided to remove the tumour. The operation was tedious, the skin being adherent to one-third of the surface. During dissection some of the contents of the cyst escaped and hair presented at the opening, showing the true nature of the tumour. A piece of bone was adherent to the sacrum. The case was one of "sequestration dermoid."—Mr. Pooley also showed a Testicle removed for Tuberculous Epididymitis.—Dr. D. Richmond showed a Cyst of the size of a fœtal head removed from the right lobe of the thyroid gland of a woman, aged 60 years. There had been a swelling for 30 years, but it had increased greatly during the past two months and was causing difficulty in breathing. The contents of the cyst were fluid débris and calcareous material.—Dr. W. J. Kerr read notes of a case of Round-cell Sarcoma of the Right Orbit pressing the eyeball down and out. There was some sloughing of the cornea. It was found impossible to remove the tumour with the globe in position, so enucleation was performed and the tumour was removed apparently completely. It recurred, however, in a few days. An attempt to remove a corresponding growth on the left temple was ineffectual owing to deep connexions, but no further growth occurred on that side. The patient, a boy, died three months later. He had become very anæmic and he suffered from hæmorrhages from the mouth and nose.—Dr. Kerr also mentioned a case of Strangulated Femoral Hernia, in which flatus was passed three hours after operation, followed shortly afterwards by free movement of the bowels. Motions followed in rapid succession, and, in spite of treatment, diarrhœa set in and lasted nine days, when the patient died from exhaustion. The wound healed perfectly, there was no rise of temperature and only a little vomiting on the sixth day.—Dr. Richmond and Mr. Pooley had each had a similiar case.—Dr. Kerr exhibited sections of Alcoholic Livers showing Cirrhosis and Fatty Changes. He also exhibited a section of Liver showing Typical Cirrhosis from a man who died at the age of 44 years from the condition. The patient was a life-long teetotaler and had not had syphilis.—Mr. Wilton Mills mentioned a similar case of cirrhosis in a total abstainer.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 16th, the President, Mr. F. Farrow, being in the chair.—Mr. W. H.

Horrocks read notes on two cases of Hypertrophy of the Breast. One of the patients was an unmarried woman, aged 22 years, who was admitted to the Bradford Royal Infirmary on Oct. 31st, 1898, complaining of enlargement of the right breast of 12 months' duration. It had been painless till 14 days before admission, when it had become red and painful and there had been a slight rigor. Her general health was good and the catamenia were regular. There was very great enlargement of the breast but there were no enlarged glands. The breast was amputated and the wound healed without trouble. The left breast was small and ill-developed. The other patient, a married woman, aged 21 years, was admitted in April, 1899, complaining of enlargement of both breasts. The catamenia were regular till five months before admission when she became pregnant. The breast had always been rather large since puberty and rapid increase in size began in the second month of pregnancy, rendering her miserable from the great weight and constant dragging pain. Both breasts reached almost to the umbilicus when she sat up. The circumference of the right breast at the base was 29 inches and that of the left base was 30 inches. The right breast was amputated on April 21st. The wound healed readily. Eleven days after the operation she was delivered of a five and a half months fœtus. The left breast was amputated on June 21st as it caused great trouble from its weight and its unsightly prominence. The wound healed readily.—Dr. Jason Wood read notes on two cases of Moveable Kidney giving rise to severe symptoms. One of the patients was a married woman, aged 38 years, very tall and stout, who had enjoyed good health till 18 months ago when she was seized with severe pain in the left hypochondriac region. The left kidney could be palpated for about half its extent and was tender. With a few days' rest and the wearing of a pad relief was obtained. There were no further symptoms till two months ago when she was again seized with pain and tenderness which passed off in about a week with rest in bed. The other patient was a married woman, aged 38 years. When seen on Oct. 6th, 1900, she had a temperature of 102° F. and a dry brown tongue; she vomited and was constantly passing bloody urine. There was a large swelling in the right hypochondrium which was excessively tender. On the 8th she was much better. On the 11th the tumour was smaller, moved freely, and felt like a kidney. On the 15th both kidneys could be palpated over the lower half and there was no pain or tenderness.—Dr. F. W. Eurich read a paper on Some Types of Locomotor Ataxia.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held at 20, Hanover-square, London, W., on April 25th, Dr. A. J. Harrison, the President, being in the chair.—Dr. C. Herbert Thompson (for Dr. J. H. Stowers) showed a case of "Erythema ab Igne" in a young woman who was accustomed to take very hot baths, but had not been exposed to radiant heat sufficient to explain the cause of the eruption.—The President considered the eruption could not be produced by the hot baths.—Dr. E. G. Graham Little showed a case of a circumscribed patch of Lupus Vulgaris of the size of a sixpence on the cheek of a boy, aged 10 years, of almost identical appearance with the case shown to the society by Dr. Stowers some four months ago.—Mr. George Pernet showed cultures from the case of Ringworm in a young woman, aged 23 years, which was brought forward by him at the last meeting of the society, and gave a demonstration of the means of differentiating the types of ringworm met with in this country.

Reviews and Notices of Books.

The Law Relating to Poor-law Medical Officers and Vaccination. By M. GREENWOOD, M.D. Brux., LL.B. Lond., of Lincoln's Inn, Barrister-at-Law. London: Baillière, Tindall, and Cox. 1901. Pp. 104. Price 2*s.* 6*d.* net.

THIS is a work published under the direction of the council of the Poor-law Medical Officers' Association of England and Wales in order to provide a handbook for the use of Poor-law medical officers that will inform them upon questions which may occur to them relating to the duties of their office, and which will contain its information in such a form that it may be readily consulted and easily understood. Such information has hitherto been mainly available in more or less weighty volumes compiled by lawyers for lawyers, and from which information upon the various branches of the subject treated of can only be dug out by dint of research, while the research can only be conducted with reasonable speed and with any certainty by those who have had training and practice in similar operations. As far as it goes the small volume which Dr. Greenwood has produced, and to which the title has been given of "The Law relating to Poor-law Medical Officers and Vaccination," is capable of conveying to Poor-law medical officers and public vaccinators useful information in a compendious form, much of which they will be glad to acquire readily, particularly when first approaching the duties of their appointments. It is written in a clear style, it gives the author's opinions or deductions so that they can be understood and followed, and little or no space is wasted by the citation of authorities to which the reader is perhaps not likely to wish to refer. On the other hand, it is a handbook only and a small one at that, while, although it is possible to overburden a book for the use of those who are not lawyers by profession by the citation of law reports and by references to statutes and sections, it is to be remembered that a medical man in a difficulty as to his legal position may at times want to rely upon the precise wording of an Act of Parliament, or to refer an adversary to an authority that will convince him. Sometimes the quoting of all material sections of an Act of Parliament, with brief notes in small print, a method commonly adopted in legal works for the use of lawyers, will give quite as clear an exposition of the law as a paraphrase or summary of it, and one less likely to omit matters which occasionally, though perhaps not often, it may be useful to know. As an example of what we mean we may refer to a brief summary of the position of the person known as the "conscientious objector" to vaccination at p. 42 of the little book before us. It seems to us to contain little more than is known already to most people, whether medical men, lawyers, or parents. Quotation of Section 2 of the Vaccination Act of 1898 would have shown that the unwilling parent before he is exempt from penalties has not only to satisfy the magistrates specified that he conscientiously believes that vaccination would be prejudicial to the health of the child, but also to deliver within seven days to the vaccination officer for the district a certificate by such justices or magistrates of such conscientious objection. We may have overlooked reference to this delivery of the certificate to the vaccination officer in the perusal of the work before us, but reference to the index does not enable us to discover it, although the duties of the vaccination officer (a layman) as well as those of the public vaccinator (a medical man) are treated of. Again, to take an example at random of a case in which a public vaccinator might desire to ascertain his duties, we do not recall, nor do we find by reference to Dr. Greenwood's index, any mention of what is to occur where a child has been successfully vaccinated by an unqualified person and the parent seeks the certificate from the public vaccinator that will exempt him from prosecution. This, we believe, is regulated by the seventh and twelfth sections of the Vaccination Act of 1871, the public vaccinator giving the certificate if he chooses, but not being compelled to do so, and being able in such a case to make his own terms as to the payment of a fee for the certificate by the parent who asks for it. We are quite aware that it is possible to overload a handbook with learning and with over-full quotation from Acts of Parliament and Orders, but at the same time in dealing with vaccination we have to bear in mind that where legal proceedings are taken to enforce it defences of a technical description are very frequently

successfully raised by legal practitioners who have the technical duties of the public vaccinator and the vaccination officer at their fingers' ends, and who are ready to take advantage of the smallest technical omission or mistake on the part of anyone connected with the prosecution. It is as well, therefore, that those who have to do with the carrying out of the law of vaccination should be fully informed as to technical points and should have them constantly and clearly before their eyes. The medical practitioner who wishes to become a district medical officer, or workhouse medical officer, or public vaccinator will, however, find a good deal that he may wish to know explained by Dr. Greenwood and will be able further to study in the appendices at the end of Dr. Greenwood's work forms of contract such as will be used by him and by the guardians with whom he agrees to fulfil his duties; he will also if he be, or intends to become, a public vaccinator, find some general remarks and suggestions, compiled at the request of the Poor-law Medical Officers' Association by Dr. A. E. Cope, which, while not forming part of the law relating to his office, may be of use to him in his performance of its duties.

Fractures. By CARL BECK, M.D., Visiting Surgeon to the New York German Poliklinik, and formerly Professor of Surgery in the New York School of Clinical Medicine. With 176 Illustrations. London and Philadelphia: W. B. Saunders and Co. 1901. Pp. 327. Price 15*s.*

THIS excellently got up treatise on fractures is dedicated to Professor Wilhelm Conrad Roentgen, "without whose discovery," says the dedication, "much of this book could not have been written." We may go further and say that the discovery of the x rays was the reason obviously of writing the book. The sections of our surgical manuals dealing with the diagnosis and treatment of fractures and dislocations which were written before Roentgen's valuable discovery were necessarily illustrated largely from the cadaver. Displacements of fragments, if fairly gross, can be ascertained by sight or palpation; in many fractures obvious deformities are present, their reason being very generally furnished by the muscular attachments; while in other fractures pain in certain regions and motional disabilities of certain sorts are characteristic. Before the discovery of the x rays surgical handbooks could only deal with the diagnosis of fractures as illustrated in the experience of their authors by these different signs and symptoms. Fractures and dislocations were generally discussed together, the aim of the association being differential diagnosis, and anatomical proofs being furnished from the dissection-room in proof of the conditions that were supposed to be existent. But the x rays in many instances enable the surgeon, familiar with the manipulation of the apparatus, to detect exactly what fracture is present and to deduce the cause of any deformity. The diagnosis that was wont to be a matter of doubt, only to be arrived at after the elimination of several, even of many, alternatives, may now be made without a possibility of error in a few minutes. It is from this improved surgical position that Professor Beck writes his handbook on fractures and the result is a very interesting work, though we doubt if many surgeons have found skiagraphy quite such an infallible finger-post to diagnosis as he has found it. The accurate recognition, for example, of fractures of the pelvis or of the base of the skull is not, in our opinion, much helped by the x rays. In each set of fractures it is occasionally easy to understand exactly what injury is present without recourse to any but the slightest manipulation, but we very much doubt if the x rays could be invariably depended upon to give the differentiation between the various lesions—fractures, dislocations, and simple contusions—that may occur about the hip-joint. Professor Beck admits that fractures of the base of the skull are still with difficulty demonstrated, and, for our part, we have never seen any skiagrams which illustrated the condition at all convincingly.

The book is a useful adjunct to treatises upon general surgery, and while it is intended to show that Roentgen's discovery created an epoch it really shows that the work of former observers has been so careful that many generations of surgeons have treated fractures with a perfect knowledge of the conditions although they were unable to avail themselves of skiagraphy in proof of their surgical faith. The illustrations are beautiful and we assume that the original skiagrams of which they are reproductions have not been unduly touched up.

Manual of Diseases of the Ear, including those of the Nose and Throat in Relation to the Ear, for the Use of Students and Practitioners of Medicine. By THOMAS BARR, M.D. Glasg., Lecturer on Diseases of the Ear, Glasgow University; Senior Surgeon to Glasgow Hospital for Diseases of the Ear, &c. Third edition, revised, and partially rewritten. With 236 Illustrations. Glasgow: James Maclehose and Sons. 1901. Pp. 454. Price 12*s.* 6*d.* net.

THIS valuable work has passed through an honourable probation, and has established itself in the forefront of text-books on the ear. Dr. Barr distributes the anatomical portion of the text through his work, instead of making it a separate part. This arrangement has the advantage of preparing the student for a consideration of diseased conditions with the normal state of each part fresh in his memory. We think that in no other text-book on diseases of the ear will such a clear and useful description of the more severe intracranial complications of aural suppuration be found as that given by Dr. Barr. The chapters devoted to the consideration of nasal and naso-pharyngeal affections are kept admirably within due limits, all extraneous matter being omitted. The above are but two points in a work that is of the highest order throughout, though we may perhaps take exception to the introduction of illustrative cases which we believe is not helpful to the student and adds unnecessary length to the book. Dr. Barr is to be congratulated on his manual; it is thorough, and will be found invaluable to those for whom it is written—students and practitioners.

The Asphyxial Factor in Anæsthesia, and other Essays. By H. BELLAMY GARDNER, M.R.C.S. Eng., L.R.C.P. Lond. London: Baillière, Tindall, and Cox. 1901. Pp. 63. Price 3*s.* net.

THE first essay gives the title to this little book. It presents the author's views upon the undesirable symptoms arising when, through faulty administration of the anæsthetic, the patient does not obtain sufficient oxygen. The author's personal experience appears to agree with that of most other writers upon this well-worn subject. Students will no doubt find the rules laid down useful. For a wider circle of readers the omission of all reference to the scientific work which has been done from the time of Bichât and Reid down to the present militates against the value of the essay. The paper dealing with nitrous oxide gas given with oxygen in general surgery is better written and of interest. We gather that this mixture has not proved of so much value for cases lasting over a few minutes as it has done in dental surgery. The remaining part of the book does not present any very novel features. The essays as a whole are a meritorious effort to enforce the necessity for attention to detail and the appreciation of dangers which lurk in the careless use of anæsthetics. They show that Mr. Gardner has carefully studied his cases and has arrived

at his conclusions as a result. From the surgeon's point of view we cannot endorse his experience that the best position for the patient for whom an empyema thoracis has to be dealt with is "almost on his face, with the diseased half of the chest lowermost." The use of the expression "stages of anæsthesia" for "degree of narcosis" is, as Snow pointed out, objectionable and misleading. Mr. Gardner is a painstaking and intelligent worker in his field of medical science and has produced a book which will prove useful to the student and tyro in anæsthetics.

Oral Sepsis as a Cause of "Septic Gastritis," "Toxic Neuritis," and other Septic Conditions. With Illustrative Cases. By WILLIAM HUNTER, M.D. Edin., F.R.C.P. Lond., Senior Assistant Physician to the London Fever Hospital; Physician to the Electrical Department, Joint Lecturer on Practical Medicine and Pathological Curator, late Pathologist, Charing-cross Hospital. London: Cassell and Co., Limited. 1901. Pp. 30.

THE object of this book is to direct attention to the importance of septic conditions of the mouth as a cause of disease. Dr. Hunter has given considerable attention to this subject, and has succeeded in showing that certain general conditions, such as pernicious anæmia and gastritis, are at times traceable to infection from the mouth. Dr. Hunter considers that he has met with cases of "neuritis" arising from septic oral conditions, but the examples which he quotes are not conclusive. The book, however, is instructive and is worthy of perusal by all medical and dental practitioners.

A Handbook of Materia Medica, Pharmacy, and Therapeutics. By SAMUEL O. L. POTTER, A.M., M.D. Jefferson Med. Coll., Phil., M.R.C.P. Lond., formerly Professor of Medicine, Cooper College, San Francisco. Eighth edition, revised and enlarged. London: Rebman, Limited. 1901. Pp. 950, 8vo. Price 21*s.* net.

WE are glad to welcome another edition—the eighth—of this valuable work. It has been closely criticised and thoroughly revised, and much new matter has been added as a result of two years' medical practice in the tropical Philippines. We feel that we may recommend the book to British practitioners with the utmost confidence, though, of course, they must bear in mind that the word "official" throughout refers to the United States Pharmacopœia and not to our own.

The arrangement of the matter is in some respects unique, and will be found to make reference an easy matter. An elaborate classification of medicines is given in the first part of the book, and the definitions of each heading are thoroughly lucid and scientific. In dealing with individual drugs the physical properties and chemical constituents are first briefly described, a list of the official preparations follows, while important unofficial preparations are not forgotten. Next the physiological action in each case is described, and the therapeutics proper follow. The effects of toxic doses and physiological and empirical antidotes are also given. It will be seen that the work is nothing if not thorough. The second part of the book, devoted to "Pharmacy," is also valuable and will be found to contain an enormous amount of detailed information and good advice to the student on the writing of prescriptions.

The third part is entitled "Special Therapeutics," and in its compilation a very large number of the works of accepted authorities have been laid under contribution. It forms a very complete and reliable index of treatment which will be a godsend to many a busy practitioner who has no time to wade through the copious literature that accompanies each new drug into the market. A long list of the supposed or already discovered ingredients of various quack preparations is given at the end of the book, together with some tables of differential medical diagnosis and a most carefully-prepared index. We quite agree with the author that, however excellent a book, its value as a work of reference is small unless it possesses a thoroughly good index. But the tables of medical diagnosis seem to be hardly in place in this work on materia medica, and in their presence lies the one and only objection to the book, which is well written, well arranged, and printed on good paper.

JOURNALS AND MAGAZINES.

Scottish Medical and Surgical Journal.—The opening article in the May number is a description of the Clinical Features of Myasthenia Gravis by Dr. Edwin Bramwell of Edinburgh, who has examined nine cases of the disease. He states that up to the present time only some 60, or possibly 90, cases have been reported. In a paper on Twin Pregnancy Dr. Alexander MacLennan of Glasgow says that a diagnosis of twins can readily be made by abdominal examination. Apart from the size of the abdomen, which may be excessive, it is from palpation that the presence of twins can be most easily recognised. The shape of the uterus may be unusual. There may be a groove at the fundus, as has been pointed out by Küneke, or the conformation of the uterus may be irregular. Fœtal movements, produced by more than one set of limbs and felt at different places, are also more or less characteristic. Two areas of maximum intensity of the heart sounds, separated by an area of silence, point towards there being more than one ovum; hearing two fœtal hearts having different rhythms is conclusive evidence. Dr. J. C. Dunlop of Edinburgh writes on the Food Requirements of Varying Labour, his data being obtained from prison experience. He considers that for moderate labour a diet of 3500 calories is insufficient, one of 3900 is excessive, and one of 3700 is sufficient without being excessive. Dr. H. O. Nicholson of Edinburgh contributes an article on the Sphygmographic Appearances of the Pulse in Infancy.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, F.R.S. Vol. xxvi., No. 5. London: C. J. Clay and Sons. April 24th, 1901. Price 7*s.*—The contents of this number of the Journal of Physiology are: 1. Galvanotaxis and Chemotaxis of Ciliate Infusoria, by H. H. Dale, B.A., Coutts-Trotter Student and Scholar of Trinity College, Cambridge. Part I. with 49 figures in the text. 2. The Action of Ether and Chloroform on the Cerebral and Spinal Neurons of Dogs, by Hamilton Wright, M.D., Director of the Pathological Institute, Federated Malay States. Supplementary papers: 3. On Dilatation of the Pupil from Stimulation of the Cortex Cerebri, by J. Herbert Parsons, B.Sc., Research Scholar of the British Medical Association, with two figures in the text. 4. The Physiological Properties of the Muscle of Echidna Nystrix, by H. G. Chapman, M.B., B.S. (Melbourne), with eight figures in the text. 5. A Further Inquiry into the Supposed Existence of Cerebral Vaso-motor Nerves, by Leonard Hill, F.R.S., and J. J. R. Macleod, M.B., with 11 figures in the text. Lastly, the Proceedings of the Physiological Society on Feb. 12th and March 16th are given.

Mercy and Truth.—Dr. Minnie Gomery writes on the prospects of medical work at Islamabad in Kashmir. Dr. T. L. Pennell has an illustrated article on the Bannu Medical Mission in 1900. Bannu is in the Punjab. In the hospital there were 607 in-patients with 18 deaths. In the out-patient department 43,100 visits were made.

Friend of China.—The April number deals chiefly with the annual meeting of the Society for the Suppression of the Opium Trade held in Exeter Hall on Feb. 26th. The publishers are Messrs. P. S. King and Son, Westminster.

THE LANCET.

LONDON: SATURDAY, MAY 11, 1901.

Enteric Fever and Food-supply.

WE are always learning of new channels by which the virus of the acute infectious diseases may be conveyed to man. Before the majority of us were born it was a well-recognised fact that water was a frequent vehicle of infection. Later it was found that milk served to disseminate enteric fever, then it became clear that a similar charge could be brought against ice-creams and shell-fish; and now we are presented by the London County Council with a report in which fried fish is accused of behaving in the same manner. The report deserves careful consideration, not only on account of the extreme importance of the subject-matter concerned, but because the investigation which has led to this conclusion has been made by a competent observer. The report relates to three outbreaks of enteric fever occurring respectively in September, 1900, in Southwark, and in the latter part of August and in September in Lambeth and in Kensal Town. The Southwark outbreak furnishes the most valuable material for etiological investigation because a larger number of persons were attacked and because the social condition of the persons living in the infected area was more uniformly the same throughout the whole of it than in the other areas. This outbreak, therefore, best deserves consideration, for the extent to which Dr. W. H. HAMER'S conclusions concerning its cause are accepted must govern the view that is entertained of the soundness of his conclusions as to the other outbreaks.

In Southwark in the course of three weeks about 100 people were attacked with enteric fever. They were all poor people, living and eating as poor persons do, and subject to that amount of prevalence of enteric fever which usually manifests itself, especially in the poor districts of London, at that period of the year. The suddenness of the outbreak and the rapidity with which the residents of a small and fairly compact area were attacked undoubtedly suggested that the disease was caused by an infected food-supply, and Dr. HAMER'S inquiries were consequently directed to determining whether the cause of the attack of this considerable number of people was water, milk, ice-creams, or shell-fish. The facts ascertained, however, completely failed to show that these possible causes had been operative and hence attention had to be directed to other possibilities. Among these was the excellent habit of the younger people of resorting to public baths, but examination of the relation between bathing and the incidence of the disease failed to show any association. Lastly, Dr. HAMER was led to make detailed inquiry into the relation between the incidence of the disease and the consumption of fried fish from a particular shop, and here he found so close a connexion that this relationship was fully investigated. It then became evident that there was a parallelism between the consumption of fried fish and attack by enteric fever that is not explicable on any other hypothesis than that the two stand in the same relation as cause and effect; for not only did people visiting the fried-fish shop suffer out of all proportion to others, but persons in their own homes to whom the fish was brought suffered, while other members of the same families who did not eat fish escaped. Dr. HAMER has not professed to account for every single case of enteric fever which has occurred in the affected area on this hypothesis. Some small number of "secondary cases" occurred, caused no doubt by an antecedent case in their homes, itself possibly due to infection from fish. Again, a much smaller number of cases occurred for which explanation was wanting, but these were not more numerous than might well have arisen without any cause other than those which govern the autumnal prevalence of enteric fever in the London population. Indeed, Dr. HAMER'S hypothesis must be accepted or the method of statement of the circumstances of the case contains some fallacy. In the main it is an arithmetical statement of the incidence of the disease upon two populations living under identically the same conditions, except in respect of the habit of eating fried fish. It is the method which was adopted by Sir JOHN SIMON in his investigation of the cause of cholera in London in the middle of the last century, and in other similar circumstances it has been accepted as satisfactory. There is no reason for assuming that it is not completely trustworthy when applied by Dr. HAMER to prove the existence of a new method by which typhoid fever can be spread. We note that Mr. SHIRLEY MURPHY in his prefatory remarks has submitted Dr. HAMER'S report to a definite arithmetical test. He has taken a fixed period for the statement of the proportionate incidence of the disease upon the two populations we have mentioned and has thus brought out clearly the vast differences between the liability of these two populations to be attacked. The reader of the report will observe that, setting aside the few cases which Dr. HAMER had, for reasons stated in his report, not regarded as belonging to the "special outbreak," the only persons who were attacked were the fish-eaters.

The circumstances of the Lambeth outbreak differ somewhat from those of the Southwark one, but this appears to be explicable on the ground that the population was less homogeneous, and hence the distribution of the cases was less compact than in Southwark. It is, however, noteworthy that the disease was limited to fried-fish eaters. In Kensal Town the conclusion is less positive, and perhaps nothing stronger can be said in support of the fish hypothesis in these cases than that it affords a possible explanation of them. We observe that neither Dr. HAMER nor Mr. SHIRLEY MURPHY is disposed to lay more stress upon the hypothesis than this. Now that attention has been directly drawn to this subject it is to be hoped that medical officers of health will bear in mind Dr. HAMER'S conclusions whenever they are concerned with outbreaks of typhoid fever or cholera for which other explanation is not forthcoming. It will be recollected that in 1893 certain persons, attacked with choleraic symptoms in London, had eaten fish received from

the east coast. Dr. HAMER'S report will serve to direct further attention to this question and it may be that a more intimate relationship between fish-eating and choleraic disease will be later established. The suggestion of this relationship undoubtedly demands that inquiry should be directed in ascertaining the extent to which frying or other culinary treatment destroys organisms in the fish. This, as Mr. SHIRLEY MURPHY points out, is matter for experiment. It is probable that the surface of the fish and material with which the fish is cooked are sterilised by cooking, but even in respect of this there is no certainty.

The Registrar-General's Annual Report.

THE Registrar-General's sixty-second annual report has recently been published as a blue-book. It relates to the year 1899, and, like its predecessors, it is a highly important and interesting document; so much so, indeed, that we cannot forbear expressing regret that its preparation should have taken more than a year and a quarter after the close of the period to which it refers. The populations used throughout the book are avowedly estimated on the hypothesis that the rate of increase since 1891 has been the same as it is known to have been during the previous inter-censal period. At this distance, however, from the 1891 census it is very questionable whether population estimates so obtained are generally to be relied on; and we had almost expressed a wish that as the new census has already been taken the revised figures could have been used in calculating the rates of marriage, birth, and death for the present report. This, however, would have still further delayed the production of the report and to that extent would have diminished the value of the information it contains.

The continued prosperity of the country is attested by the marriage-rate, which in 1899 was higher than in any year since 1876, the rate having steadily increased to its present level ever since the year 1893. The birth-rate in 1899 was only 29·3 per 1000 and was the lowest on record, being below the mean rate in the previous 10 years by 1·0 per 1000. The death-rate was 18·3 per 1000 and was slightly below the decennial average rate. The death-rates for the several counties are given in the report. It must, however, be borne in mind that, inasmuch as those rates are based on purely provisional estimates of population, inferences from them are likely to need modification after the estimates have been revised on the basis of the 1901 census. In discussing the question of infantile mortality we are on firmer ground, and as in this case we are able to eliminate the errors inseparable from estimates of population the rates may be accepted as fairly trustworthy. In the year 1899 the proportion of deaths of infants under one year of age to registered births was 163 per 1000, which is somewhat higher than the mean proportion in the previous 10 years. In registration counties infantile mortality ranged from 106 in Rutlandshire and 108 in Herefordshire, to 188 in South Wales and 191 in Lancashire.

Among common infectious diseases scarlet fever, measles, and whooping-cough were much less fatal in 1899 than the average, the disease last mentioned showing a lower fatality than in any previous year on record. Diphtheria and diarrhœa, however, were more fatal than usual, whilst the mortality from enteric fever in 1899 has only once been exceeded in any year since 1884. The section of this report which deals with the local incidence of enteric fever is very complete and gives evidence of thoughtful preparation. In view of the well-known connexion between insanitary conditions and the prevalence of that disease we may be certain that this portion of the report will receive the consideration of the Local Government Board. The continued increase of diphtheria in recent years is once more adverted to in the present report, more than 10,000 deaths having been caused by it in the year under notice. The local incidence of this disease is here specially considered, and a table is given showing the mortality to which it gives rise in the several counties of England and Wales. In the year 1899 the mortality from diphtheria and croup did not exceed 98 per million of the population in Oxfordshire and 110 per million in Cornwall, whilst it amounted to 658 per million in Monmouthshire, 703 per million in Leicestershire, and 837 per million in South Wales. During the earlier years of life this disease is enormously more fatal than at subsequent ages, as many as 64 per cent. of the total deaths being those of children under the age of five years. In proportion to population the deaths from diarrhœal diseases were more numerous in 1899 than in any year since 1893. In addition to 31,000 deaths certified as from diarrhœa, more than 19,000 deaths were referred to enteritis or gastro-enteritis. Etiologically, all the infantile deaths referred to so-called "gastro-enteritis" and a large share of those referred to "enteritis" should, doubtless, be considered as cases of epidemic diarrhœa. The fact that the age incidence of these maladies closely corresponds with that of epidemic diarrhœa strongly supports this view. It is much to be desired that in certifying deaths from epidemic diarrhœa medical practitioners should adopt the recommendation of the Royal College of Physicians of London, invariably using this term, or the suggested alternatives "epidemic enteritis" or "zymotic enteritis," and discontinuing the use of such terms as "gastro-enteritis," "muco-enteritis," and "gastric catarrh."

Among constitutional diseases both cancer and diabetes showed in 1899 a fatality in excess of the average, but tuberculous diseases had not exacted so heavy a toll. From cancer the mortality among males was equal to a rate of 672 per million, and among females to a rate of 977 per million, both these rates being the highest on record. Out of a total of 26,325 deaths from malignant disease 736 were attributed in the certificates to scirrhus, 1293 to epithelioma, and 1706 to sarcoma—the remainder, amounting to 86 per cent. of the whole, being referred to carcinoma or malignant disease simply, without further discrimination as to kind. The mortality from phthisis is still happily on the decline; as compared with the respective averages, the male rate in 1899 was lower by 5 per cent. and the female rate by 12 per cent. In both sexes the reduction in mortality was greatest at ages below 35 years; at the higher ages either the reduction was small or else

there was an actual increase as compared with the average. Tuberculous meningitis accounted for not fewer than 6449 deaths in the year under notice. Most of these deaths were those of infants; among male children this disease was responsible for a death-rate of 1326 per million living under five years of age, and among female children for a rate of 1046 per million. Both these rates are, however, below the average. The disproportionate liability of male children to tuberculous meningitis is remarkable, male children under five years of age dying from this disease faster than female children by no less than 29 per cent.

Having regard to the remarks which we have recently felt called upon to make on the subject of death certification we are pleased to note that the resources of the General Register Office are being utilised with the object of ascertaining the extent to which the law is being evaded. We have repeatedly pointed out that although, taking England and Wales as a whole, the proportion of deaths uncertified by medical men does not exceed 2 per cent., nevertheless there are many districts (Spennymoor in Durham, for example) where the proportion of uncertified deaths is so high as to constitute a public scandal. In the report before us we are glad to find a table showing the registration districts in which the highest proportions of uncertified deaths occur. From this we find that in the year 1899 there were 55 districts which showed in every case a percentage of uncertified deaths amounting to more than double, and in one instance to more than nine times, the average proportion in England and Wales generally.

The Motor-Car Exhibition.

AN excellent insight into the progress of the motor-car and of its industry could be gained at the Royal Agricultural Hall this week (May 4th to 11th) on the occasion of the motor-car exhibition held there under the auspices of the Auto-mobile Club. It must be admitted, we think, that although advances in the structure of the motor-car are announced day by day and there is little doubt that the actually practicable motor will at length be realised, yet in the main progress is slow. Attention appears to be directed equally to electricity, steam, and petroleum as the motive power. Undoubtedly "petrol" is the favourite source of energy, while for many practical purposes, at any rate for the present, electricity is inadmissible. Some excellent motor-cars are now being made, however, which are driven by steam, and not the least advantages of these cars are that they are much less noisy than the petroleum-driven car, there is decidedly less vibration, and they are free from unpleasant smell. Apparently steam motors admit also of a greater simplicity and neatness of design than does the petroleum motor. But the requirements of a really useful motor are somewhat exacting. One important requirement (as, for example, in the case of the medical man) is that it should be ready for use without much preparation. The electric car requires practically no preliminary attention, the petrol-car requires some attention before a start can be made, while the steam-car necessarily involves a good deal of time before it can be started. The steam-car, however, is evidently an increasing favourite, although by far the majority of cars are driven by petroleum. While it is true to some extent that petroleum is a manageable force, yet it is only so by virtue of the fact that it forms an explosive mixture with air. The petroleum must be uniformly vapourised and the resulting vapour mixed with air and the resulting mixture ignited before the energy of the petroleum is obtained as a propelling force. All this means an infinite amount of control at various points in the structure of the motor. Steam, on the other hand, is more easily under control because it is an expansive force, petroleum giving, so to speak, a series of jerks from results of explosions instead of a steady elastic pressure. Until a way is found of storing electricity on a better plan than is at present available—that is, by the use of very weighty accumulators the capacity of which is necessarily limited—electricity cannot become a practical source of propulsion for the motor-car. At most not more than a 30 to 40 mile charge of battery power can be carried and this means a great weight, and then there is the inconvenience of the ever-present doubt as to whether the charge will serve, and there may be no re-charging station within reach. Sooner or later, however, the motor-car is sure to become a simpler and handier means of propulsion and more adapted for common every-day purposes than it is at the present time. The enormous attention that is being directed by a large and highly skilled body of engineering men towards the improvements of the motor-car is practically certain to be crowned with success in the near future. This reflection doubtless restrains many from possessing a motor-car, for rapid improvements may come at any moment. As it is, the improvements that take place every year are certainly noteworthy, all tending to the evolution at last of a really satisfactory motor-car. The relative merits of the different kinds of motors could easily be discussed at this exhibition, and a spacious arena was provided in which trial trips could be made. The hall was well-nigh intolerable, however, from the nauseating smell of escaped and partially burnt "petrol." One satisfactory feature of the exhibition was the fact that many of the improvements are due to English skill and ingenuity and a great many of the motors were entirely British made. Another point worth mentioning also is that the prices of the motor-car are evidently being gradually reduced; they are certainly much lower in price than in previous years, a really useful motor-car with accommodation for two persons costing now not more than 150 guineas. The exhibition was of the most encouraging kind and undoubtedly teaches that amongst the industries of this country motor-car manufacture will have a very important place, serving to maintain a brisk demand for steel and a large field for foundry labour. The growth of the industry in the Coventry district and in many other provincial towns also is already very great, and there is little doubt that as the motor-car is further improved *so pari passu* the industry will expand. The time is sure to come when the production of motor-cars will be as large and as popular as was the case with cycles some few years ago. There is a peculiar and special interest therefore connected with the annual exhibition of the motor-car industry.

Annotations.

"Ne quid nimis."

THE LATE HONOURS GAZETTE.

THE *Army and Navy Gazette* of May 4th, referring to our remarks which "as in duty bound commented rather severely on the omission of the name of the Director-General of the Army Medical Service from the Honours *Gazette*," thinks that THE LANCET went a little too far in treating the honours conferred on Sir H. Brackenbury and Sir C. Mansfield Clarke as Director-General of Ordnance and Quartermaster-General at home as accentuating the omission of the name of Surgeon-General J. Jameson from the list. Our service contemporary adds: "How it can be supposed that the Army Medical Service must be unpopular in the eyes of its officers and of the profession on account of the omission is beyond our comprehension. It surely is not 'ignoring the Director-General' to give the G.C.B. to these two senior officers?" Admitting the force and truth of the remarks which follow in the article from which we are quoting about the relative value and importance which the world attaches to the work of its soldiers and sailors as compared with that of its physicians and surgeons we have nevertheless to confess that they seem to us wide of the mark. As a matter of fact, our comments simply stated the opinion which was generally entertained and had been freely expressed. That the Director-General of Ordnance and the Quartermaster-General thoroughly deserved their G.C.B.'s we never questioned and do not doubt, nor did it ever enter our minds to conceive that the Director-General of the Army Medical Service would have had that particular honour conferred upon him. Our point was that while Sir Henry Brackenbury and Sir C. Mansfield Clarke had been selected for reward in recognition of the services which they had performed in this country during the present war the name of the head of another department in this country, that of the Medical Service, on whom the war must have entailed an immense amount of labour and responsibility, was altogether omitted from the *Gazette*. The circumstance surely does tend to make the name of that official more conspicuous by its absence in the list than it would otherwise have been, and it is natural, indeed unavoidable, to notice and to seek for an explanation of such an occurrence. That was our point, and we are glad to see that the *Broad Arrow* looks at the matter with the same eye as ourselves.

THE EDINBURGH UNIVERSITY CLUB: LORD LISTER ON MEDICAL EXAMINATIONS.

THE Edinburgh University Club held a dinner at the Holborn Restaurant on May 1st. Lord Lister occupied the chair as President of the club, and he was supported by, among others, Sir James Reid, Lord Justice Stirling, Dr. Ferrier, Dr. Farquharson, M.P., and Sir Thomas Barlow. The company was large and everything went to show that the club is in a satisfactory state despite the great losses, very feelingly alluded to by the President, in recent months of two important members—the late Dr. J. B. Potter and the late secretary, Dr. Leslie Ogilvie. The music of the evening was supplied by Mr. William Nicholl who was frequently encored. In responding to the toast of "The Naval and Military Forces," proposed by Dr. Farquharson, Deputy Surgeon-General W. G. Don vindicated the military services, dwelling much on the actually new and unprecedented conditions of the war in South Africa. The feature of the evening was the speech by Lord Lister, revealing, as many previous speeches have done, his affection for Edinburgh and his gratitude for the influence of the Edinburgh University School, and especially of Mr. Syme's practice and character, on his mind. Lord Lister went to Edinburgh as Mr. Syme's house surgeon. Though, he said, he was not in the ordinary sense of the word a student of the University he received lessons there which were as valuable as any in his student career, and this in spite of the absence of many advantages which now existed in the form of laboratories of all kinds and a new infirmary. Lord Lister made some significant remarks as to recent changes in the examination system of the University and in the remuneration of professors. Formerly the candidates for graduation were examined solely by their professors and Lord Lister boldly intimated that in his opinion if the choice lay between examination of the student by his own teachers and by strangers he would unhesitatingly prefer the former on the ground that the teacher was likely to be the best judge of the real merits and the real knowledge of the student. The teacher's presence, with the help of an assessor, was perhaps the best guarantee for the avoidance of undue leniency on the one hand and what was probably a more serious fault—undue severity—on the other hand; the more so considering the enormous range and number of subjects which no teacher could cover entirely. Lord Lister used to say that it was impossible to teach the whole subject of chemistry; now it was equally true to say that it was impossible to overtake the whole range of surgery in any practicable course. All the teacher could do was to teach sound principles with such materials as he could command. To subject the student to the examination of perfect strangers was a grievous injustice, and the student was tempted to study by cram to meet the views of various possible examiners. Lord Lister criticised with some disapproval recent changes in the payment of professors, maintaining that it should vary in proportion to their work and fitness. Referring to the club itself he thought that it maintained its health and prestige. It was most valuable in reviving old friendships and originating new ones and in promoting reverence and affection for the *alma mater*. Dr. Ferrier, in proposing the health of the President, said that no man of medical science had attained such wide renown or seen in his lifetime the fruit of his labours to the same extent as had Lord Lister. None had had higher honours conferred upon him or had borne them with more modesty. Lord Lister was more than great—he was loved. He told an anecdote of his humanity. In prescribing the actual cautery for one of Dr. Ferrier's patients Lord Lister expressed regret for the pain that it would cause. The patient said that he could submit to any pain which Lord Lister thought fit to order. "We are all proud of him," Dr. Ferrier added, and the toast was drunk with musical honours.

LAUGHTER AND LONG LIFE.

IT may be that some enthusiastic and laborious German statistician has already accumulated figures bearing upon the question of length of life and its relation to the enjoyment thereof; if so, we are unacquainted with his results and yet have a very decided notion that people who enjoy life, cheerful people, are also those to whom longest life is given. Commonplace though this sounds, there is no truth more commonly ignored in actual every-day existence. "Oh, yes, of course, worry shortens life and the contented people live to be old," we are all ready to say, and yet how many people recognise the duty of cheerfulness? Most persons will declare that if a man is not naturally cheerful he cannot make himself so. Yet this is far from being the case and there is many a man who is at present a weary burden to his relatives, miserable through the carking care of some bodily ailment, perhaps, or some worldly misfortune, who, if he had grown up into the idea

that to be cheerful under all circumstances was one of the first duties of life, might still see a pleasant enough world around him. Thackeray truly remarked that the world is for each of us much as we show ourselves to the world. If we face it with a cheery acceptance we find the world fairly full of cheerful people glad to see us. If we snarl at it and abuse it we may be sure of abuse in return. The discontented worries of a morose person may very likely shorten his days and the general justice of nature's arrangement provides that his early departure should entail no long regrets. On the other hand, the man who can laugh keeps his health and his friends are glad to keep him. To the perfectly healthy laughter comes often. Too commonly, though, as childhood is left behind the habit fails, and a half-smile is the best that visits the thought-lined mouth of a modern man or woman. People become more and more burdened with the accumulations of knowledge and with the weighing responsibilities of life, but they should still spare time to laugh. Let them never forget, moreover, and let it be a medical man's practice to remind them that "a smile sits ever serene upon the face of Wisdom."

THE KING AND THE CORONERS.

AMONG the deputations received by His Majesty the King on May 3rd at St. James's Palace was one from the coroners of England. The deputation, which consisted of Mr. Sidney Hacker, coroner for Devon, Mr. Henry John Robinson, coroner for Lancashire, Dr. Danford Thomas, coroner for Central London and Central Middlesex; Dr. Wynn Westcott, coroner for North-East London, Mr. Arthur Langham, the treasurer of the Coroners' Society, and Mr. Walter Schröder, secretary of the London Coroners' Association, was most graciously received in the Throne Room. The President, Mr. Hacker, presented an illuminated address, congratulating His Majesty upon his accession to the throne and giving an assurance of the loyalty and devotion to the Crown which the coroners, as His Majesty's own personal officers, ever feel towards the sovereign. Each of the gentlemen present was introduced to the King who made the following reply:—

"I thank you for your loyal and dutiful address and for your expressions of attachment to my Throne and to my Consort and my Family. I appreciate the cordial sympathy which you express with our own and the nation's grief at the loss of my beloved mother; and I am deeply gratified by your assurances of faithful service to the Crown in the ancient and honourable office which you hold."

A similar deputation was received by Her Majesty Queen Victoria in July, 1897, on the occasion of the Diamond Jubilee.

A MILITANT BACTERIOLOGIST.

WE regret to announce the death, at the early age of 40 years, of Professor P. Kohlstock, which occurred at Tientsin on April 15th in consequence of heart-failure following upon an attack of enteric fever. During Professor Robert Koch's sojourn in South Africa for the purpose of investigating and combating the rinderpest Dr. Kohlstock was his first assistant and wrote all the more important despatches and reports bearing upon rinderpest. In Germany, however, his name is associated with several other, by no means less important, scientific adventures; indeed, he may be said to have been an adventurer in the truest sense of the word, for at a very early period of his life he voluntarily joined Wissmann's column as a leading member of his personal staff and took a prominent part in suppressing a number of sudden insurrections of the Arabs. So highly did he distinguish himself in this respect that soon afterwards he was directed by the German Government to organise and to conduct the sanitary service in its East African colonies. He accomplished this task and remained there till 1890, when he returned to Berlin and began some special bacteriological studies under the superintendence of Professor Koch. In the following year the Seminar für Orientalische Sprachen was founded in Berlin, and Dr. Kohlstock for some years lectured there at intervals on tropical hygiene. To his connexion as a teacher with this institute he mainly owed the title of Professor which was bestowed upon him by the German Government in 1898. Nor were his interest and his activity confined to the latter work alone; indeed, his subsequent appointment as a scientific adviser to the German Foreign Office in matters bearing upon tropical hygiene occupied a great deal of his time and brought him into public prominence, with the result that he was soon approached by several private colonial associations to accept a post similar in character to that which he held in connexion with the Foreign Office. Circumstances, however, led him to refuse these lucrative overtures; but, on the other hand, it is stated that on more than one occasion he rendered valuable practical assistance in matters relating to colonial enterprise to the leading colonial companies in Germany. His name, however, was still more before the German public during the great cholera epidemic of 1893. He was then called upon to undertake the control of some of the main seaports and he fulfilled this task with conspicuous ability. His scientific and literary contributions are numerous, but they are almost entirely confined to the domain of bacteriological and clinical research in connexion with malaria and yellow fever. One popular book, however, which he wrote some two or three years ago is likely to remain of permanent importance—namely, his "Aerztlicher Rathgeber für Ost-Afrika und andere Tropische Malaria-Gegenden" (Medical Guide for East Africa and other Tropical Malarial Regions). Lastly, in conjunction with Professor Koch he originated the scheme for the establishment of the Deutsche Anstalt für Tropen-Hygiene (German Institution for Tropical Hygiene) which was recently erected in Hamburg.

THE ASSOCIATION OF OBESITY WITH NARCOLEPSY.

DR. PAUL SAINTON of Paris contributes to the *Revue Neurologique* of March 30th last a paper on the Association of Obesity with Narcolepsy and gives an outline of the treatment proposed. The torpor or somnolence of the obese is a fact of common observation, but attacks of narcolepsy—i.e., of irresistible sleep—are rarer. Of two cases of narcolepsy and obesity recently recorded it was found that diabetes was present in one (Robin) and albuminuria in the other (Lamacq). The following case was entirely free from any such disease or disorder, the only physical condition associated with the narcolepsy being obesity. The case was that of a man, aged 43 years, a musical composer. His father was gouty and his mother was subject to arthritis and eczema. There was marked obesity in the grandparents. The patient was thin and delicate in childhood, with an innate dislike of physical exercise. He led a very regular life, was a big feeder, and at the age of 17 or 18 years began to grow fat. He ate heartily of starchy and saccharine foods and drank red wine, but was not given to taking liqueurs. He was a good sleeper at first, but subsequently he began to suffer from insomnia towards early morning, waking three or four times after a short sleep of two or three hours. One morning he got up at six o'clock; a few minutes later he felt suddenly and irresistibly sleepy and slept for two hours. During the day similar attacks of sleep occurred, and on one occasion while writing he suddenly fell asleep pen in hand. These "crises" of sleeping seldom lasted more than a few seconds or minutes. Sometimes when out visiting and during conversation he would suddenly fall asleep. One day while descending a staircase he was

suddenly overcome by sleep and rolled down the steps, sustaining a severe bruise of the forehead. Alarmed by these symptoms he decided to diminish his food with the result that he became less fat and the attacks of sleep became less frequent. But he failed to keep up the dietetic *régime* and became fat again. Later, he tried taking thyroid tablets, but these he found he could not tolerate owing to the production of tachycardia lasting several days after taking them. The attacks of narcolepsy now became more frequent and he consulted Professor Debove. He was now very fat, easily tired on exertion, and suffering from intertrigo. The urine was free from albumin, sugar, or bile, and the percentage of urea was normal. He was put on a special diet of fresh fruits, green legumes, plenty of water and of weak tea, and a dose of 10 minims of tincture of aloes after meals daily. The soup which he was allowed to take had to be free from fat. He lost his excess of fat after this and his weight, which at one time was 235 pounds, was gradually reduced to 157 pounds. His intellectual and physical vigour gradually returned, he slept naturally, and no longer had attacks of narcolepsy. Dr. Sainton points out that Lamacq regards narcolepsy as not caused solely by obesity, because in two of his cases he noticed the presence of albuminuria and of enlarged tonsils respectively. The symptoms in the present case, however—viz., the association of narcolepsy with obesity uncomplicated by other conditions—and the results of treatment show that a constitutional condition characterised by slowness of tissue metabolism underlies both. Dr. Sainton thinks that this underlying condition may be due to some form of auto-intoxication, the narcoleptic attacks being due to the toxæmia affecting the brain. Suitable diet and increase of metabolism contributed to the cure of both the obesity and the narcolepsy in the present case.

THE FESTIVAL DINNER OF THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST.

THE festival dinner of the Royal Hospital for Diseases of the Chest, organised by the energetic secretary, Mr. John Harrold, was a decided success inasmuch as it realised £5800 of the £10,000 required for the purposes of purchasing a freehold site for the hospital, of building and furnishing a nurses' home, and of carrying on the work of the hospital. The dinner was held on Monday, May 6th, under the chairmanship of Sir T. Andros de la Rue, Bart., chairman of the hospital, at the Whitehall Rooms of the Hôtel Métropole and there was a good attendance. The toast of "His Majesty the King," proposed by the Chairman, was enthusiastically received with musical honours and the toast of "Queen Alexandra, the Duke and Duchess of Cornwall and York, and other members of the Royal Family," also proposed by the Chairman, was cordially responded to. In proposing the toast of the evening, "Success to the Hospital," the Chairman reminded his hearers that the hospital was founded by the Duke of Kent in 1814 and also that it was the first hospital in Europe founded for the study and treatment of consumption. At the present time there were about 800 in-patients treated annually, while the attendances of out-patients exceeded 26,000 annually. The reliable income of the hospital from annual subscriptions was less than one-third of the expenditure, and consequently from time to time the management got into troubled waters. The Prince of Wales's Hospital Fund Committee and the medical staff of the hospital insisted upon the imperative necessity of providing a suitable home for nurses which would cost some £7000, and £3000 were required for the ordinary work of the hospital. He concluded by asking for liberal support on the part of the charitable public. It would indeed be a pity if the remaining £4200 were not soon subscribed. The toast list included "The President, Lord Rothschild," proposed by the Hon. Claude Hay, M.P.; "The Chairman and other members of the Council," proposed by Mr. A. Wedderburn, K.C., and responded to by the Rev. G. H. Perry, M.A.; "The Medical Staff and other Honorary Officers," proposed by Colonel Makins and responded to by Dr. Philip J. Hensley; and "The Chairman," proposed by Mr. S. Hope Morley. The proceedings of the evening were enlivened by vocal and instrumental music, Miss Daisy Harrold, daughter of the secretary, making her public début with a charming rendering of a pianoforte solo, "Carmen."

THE GENERAL MEDICAL COUNCIL.

SUMMONSES have been issued for the meeting of the General Medical Council on Tuesday, June 4th, at two o'clock. The Executive Committee will, as usual, meet on the day previous. One matter of vital importance to the Council must receive early discussion. On the last day of the last session the Special Finance Committee of the Council presented a report on the financial condition of the Council which it was decided to refer to an expert in finance. The members of the Council were divided into two camps. On the one side it was asserted that the financial condition was sound, the annual deficit being too small to cause the slightest anxiety; on the other it was contended that a very serious condition of affairs existed which urgently called for reform. The point is so vitally important that the truth will have to be made clear at the first opportunity.

QUEEN VICTORIA'S NURSES' ENDOWMENT FUND.

IN THE LANCET of April 20th, 1901, p. 1152, we called attention to the special appeal to the women of the Empire for further funds permanently to endow Queen Victoria's Institute for Jubilee Nurses. The following committee, with power to add to their number, have now been appointed with the object of carrying out this project:—The Duchess of Beaufort, the Duchess of Bedford, the Duchess of Marlborough, the Duchess of Portland, the Duchess of Westminster, the Marchioness of Lansdowne, the Marchioness of Londonderry, the Dowager Countess of Shrewsbury, the Countess of Derby, Helen, Countess of Radnor, the Countess of Lonsdale, the Countess of Selborne, the Countess Roberts, Lady Lucy Hicks-Beach, Lady Aline Beaumont, Lady Hilda Brodrick, Lady Sandhurst, Baroness Burdett-Coutts, the Lady Mayoress, and Mrs. Beerbohm Tree. At a meeting of this committee, presided over by the Marchioness of Londonderry, held on April 29th at Londonderry House, Park-lane, it was decided that the wives of the Lord Lieutenants and the mayoresses of the United Kingdom should be approached and invited to identify themselves with the movement and to coöperate with Lady Londonderry's committee in carrying it out. In order that all classes, both in town and county districts, might have the opportunity of participating in the "Women's Memorial to Queen Victoria," it was also resolved that a thorough organisation should be instituted throughout the entire country. For this purpose arrangements will be made to ensure collecting cards finding their way into every village and remote hamlet, thus affording to the humblest the opportunity of subscribing their mite to the work. The present income of this institute, which for 12 years has ministered to the poorest people in the kingdom, is totally inadequate to meet the expenses, and unless the funds are greatly increased it will be impossible to keep up even the present number of nurses. To justify the council in considering the Queen's work as fairly established some 2000 nurses will be required, and to raise the establishment to this number will necessitate great efforts on the part of those interested in the work of the institute. The committee desire it to be understood that whilst contributions from those who can afford to give generously will

be deeply appreciated, still they equally wish it to be known that even a penny from the less fortunately placed will be heartily welcomed. Ladies desirous of acting on county committees or assisting in any way are requested to forward their names and addresses to the Honorary Secretaries, Women's Memorial Fund, 64, Cannon-street, London, E.C., stating the district and county in which they are desirous of working.

THE ROYAL SOCIETY.

THE Council of the Royal Society have recommended as Fellows of the society Major Ronald Ross, I.M.S. (retired), director of the Liverpool School of Tropical Medicine, whose researches into the etiology of malaria have borne such brilliant fruit; Dr. C. J. Martin, Professor of Physiology in the University of Melbourne and an acknowledged authority on snake-poison; and Major Alfred W. Alcock, I.M.S., superintendent of the Museum at the Medical College of Calcutta, and well known for his researches in marine zoology.

DRUNKENNESS AND HEREDITY.

IT is now 18 months since the Society for the Study of Inebriety appointed a special committee to consider the relation of heredity to inebriety. The committee was composed of five physicians, two surgeons, a professor of bacteriology, an army surgeon, and five general medical practitioners. 18 months have been spent in investigation. The report of this committee has just been published and it is signed by nine of the 14 members, some of whom have made comments, while one has sent in an independent report. The reference to the committee was in these terms: to investigate the conditions under which the tendency to drunkenness is capable of transmission to offspring. It does not appear to be contended that inebriety in itself is hereditary but that a capacity or tendency to it *is* heritable. The report declares that the inebriety of an individual depends upon three conditions—the first being an *inborn* capacity for enjoying the sensations which alcohol produces, and the second and third being *acquired*—personal experience of the pleasures of alcohol and the increased delight which continued indulgence confers in the case of the inebriate. That one drunken generation often succeeds another suggests an hereditary taint. The committee adds that there is no evidence that acquired characters of any kind are heritable. This appears to have been a much-debated question. Popular opinion has taken for granted that the acquired characteristics of parents are likely to be inherited and, of course, "temperance reformers," well-meaning, but often ignorant and misguided, have not been slow to urge upon the public that each man's drinking is pretty sure to produce for him a generation of children who will become drunkards. If this be not true the temperance reformer (who is generally in favour of entire abstinence rather than of temperance) must bear a heavy responsibility for the vast amount of mental torture which he has inflicted on the moderate-drinking citizen. The last word of science, however, as declared by teachers of physiology, biology, and botany, is a very definite assertion that no instance of the hereditary transmission of an acquired characteristic has ever been demonstrated either in the animal or the vegetable kingdom. If this be a fact a man can only transmit to his son the hereditary taint with which he was born, and if a man having no inborn tendency to excess yet acquires drunken habits his progeny are in no more danger than are those of his neighbour, leaving out of consideration the effect of environment on youth. It is not denied that drunken parents who become thus mentally and physically weak are liable to have children who are degenerate—weak in body and feeble in mind; such persons, in fact, as under unpropitious circumstances tend to become paupers, criminals, epileptics, and drunkards. The point which is denied is that the drunkard's child has the specialised tendency to become inebriate rather than vicious in some other direction. It seems probable that the question of environment is of more importance after all than that of heredity, and a man of strong will is just as likely to exercise it in the gratification of his desires as in the contrary direction. If a man of powerful will finds that alcohol gives him pleasure he will take good care to repeat the experience. The habitual drinker is one to whom alcohol brings enjoyment, either as positive pleasure or cessation of pain, whereas the voluntary abstainer is one who from constitutional peculiarity finds little pleasure in alcoholic exhilaration. Alcohol weeds out from every race the individuals who most enjoy and indulge in it. The races of Southern Europe who have had the longest experience of alcoholic drinks are now more temperate than the British, the Scandinavians, and the Russians. The committee is of opinion that the continued abuse of alcohol tends to render a race less innately prone to inebriety than it would otherwise have been, this result being brought about by the elimination of the drunken unfit and the survival of those with a weak tendency to alcoholism.

THE MIDDLESEX HOSPITAL LODGE OF FREEMASONS.

THE consecration of the Middlesex Hospital Lodge, No. 2843, took place at Freemasons' Hall, London, W.C., on Tuesday, May 7th. The ceremony of consecration was conducted by V. W. Bro. Edward Letchworth, P.G.D., Grand Secretary, assisted by other Grand Officers, amongst whom were W. Bro. Clement Godson, M.D., P.G.D. (as S.W.), W. Bro. Alfred Cooper, F.R.C.S., P.G.D. (as J.W.), and W. Bro. Surgeon-Lieutenant-Colonel H. W. Kiallmark, P.G.D. (as I.G.), W. Bro. T. G. A. Burns, M.A., M.R.C.S., was appointed the first Master of the Lodge, with Bro. William Duncan, M.D., F.R.C.S., as Senior Warden, and Bro. Frank J. Wethered, M.D., F.R.C.P., as Junior Warden. The other officers are as follows: R. W. Bro. the Earl of Lathom, Prov. Grand Master for East Lancashire, I.P.M., Bro. Henry Morris, F.R.C.S., treasurer; Bro. F. Clare Melhado, secretary; W. Bro. E. J. Humphery, P.G.S., D. of C., Bro. A. G. R. Foulerton, F.R.C.S., S.D., Bro. F. P. Wightwick, M.D., J.D., W. Bro. C. Vincent Cotterell, I.G., W. Bro. Wilhelm Ganz, P.G.O., organist; and Bro. R. A. Young, M.D., steward. The Worshipful Master, in replying at the banquet to the toast of his health, remarked that the Middlesex Hospital Lodge was the fifth lodge founded in connexion with medicine in London, the others being the Æsculapius Lodge (which is a general medical lodge), the Rahere Lodge (St. Bartholomew's Hospital), the Sancta Maria Lodge (St. Mary's Hospital), and the Cavendish Lodge (West London Hospital). He also stated that he understood that three other great London hospitals were taking active steps for the foundation of Masonic lodges. About 70 brethren were present, including a large number of guests, W. Bro. R. J. Reece, M.D., P.M. of the Rahere Lodge, and W. Bro. L. Bidwell, F.R.C.S., W.M. of the Cavendish Lodge, responding to the toast of "The Visitors." The Middlesex Hospital Lodge has started upon its Masonic career under most promising and pleasant auspices, and we venture to prophesy for it a success not less than that which has attended the other Masonic lodges attached to metropolitan hospitals. The good work done in the world's behalf by hospitals is known to everyone, and the good work done by Freemasonry, however jealously its mysteries may be guarded, is no secret, for public witness is borne to this fact

by its magnificent charities—the schools for girls and for boys who are children of Masons and the Benevolent Institution for Aged Freemasons and Widows of Freemasons. Long may such a happy union of charity's forces as is evidenced by a hospital Masonic lodge flourish. The pleasure of the post-prandial proceedings was enhanced by an admirable selection of music by the "Westminster Singers" under the direction of Bro. Ganz.

SUPERVISION OF THE CRIMINAL INSANE IN THE PAST CENTURY.

IN the *Journal of Mental Science* for April Mr. Richard Brayn, superintendent of the State Criminal Lunatic Asylum, Broadmoor, deals with the important matter of the State supervision of criminal lunatics, and sketches the progress made with respect to their care in the course of the past century. Previously to the year 1800 no special provision was made for criminal lunatics; they were either dealt with as ordinary lunatics or were committed to prison and punished for their offences. The result of this was that "many of the bridewells were crowded and offensive because the rooms designed for prisoners were occupied by lunatics";[1] and, on the other hand, it was stated by the Attorney-General[2] that "persons who had committed the most shocking acts, and been acquitted on the grounds of being deranged in their intellects, had been allowed to go at large and again commit similar atrocities." In July, 1800, an "Act for the Safe Custody of Insane Persons charged with Offences" was passed. This is the oldest of the statutes relating to criminal lunatics and was the direct outcome of the trial of Hadfield for attempting the life of George III. The appointment of a Select Committee on Criminal and Pauper Lunatics in 1807 was the next step of importance. This committee recommended "that a building should be erected for the separate confinement of all persons detained under the above-mentioned Act ..... for offences committed during a state of insanity." Nothing was done, however, till 1814, when wards for the accommodation of 60 criminal lunatics were constructed in connexion with Bethlem Hospital; but a few years later it was found necessary to double the accommodation, and shortly afterwards further provision was required. In 1849 an arrangement was made whereby accommodation for criminal lunatics was obtained at Fisherton House and at the Camberwell and Dumfries lunatic asylums. The wards provided at Bethlem Hospital and Fisherton House soon became filled, and it was at last decided to build a special asylum for criminal lunatics, and in 1856 Broadmoor was selected for the erection of such an institution. In 1860 an Act of Parliament commonly known as the Broadmoor Act was passed, which made the necessary provisions for the government of such an institution, and for its annual inspection by the Commissioners in Lunacy, and in 1863 the Broadmoor Asylum for Criminal Lunatics was opened. Originally constructed to accommodate 400 male and 100 female patients, it has since then been altered and enlarged until now (1900) it has accommodation for 480 males and 187 females. In 1883 an Act called the "Trial of Lunatics Act" was passed. A further Act to consolidate and amend the Acts relating to criminal lunatics was passed in 1884. This Act makes provision for the certification and detention of insane prisoners as criminal lunatics, and is the statute which mainly governs the practice and method of procedure in dealing with criminal lunatics in asylums. The treatment of patients in Broadmoor Asylum is, says Mr. Brayn, based on the same principles as that of other asylums, excepting that in consequence of the dangerous and violent propensities of many of the patients, stricter supervision and a larger staff of attendants are required. From statistical tables compiled by Mr. Brayn it appears that 83·3 per cent. of the total population of the asylum were cases of homicide and homicidal attempts.

[1] Howard: State of Prisons.
[2] Hansard: 1800, vol. xxxv.

THE TREATMENT OF THREAD-WORMS.

IN our issue of April 20th there appeared a letter from a correspondent asking for some hints as to the treatment of thread-worms. In THE LANCET of April 27th another correspondent replied advising the use of copaiba given by the mouth. We have also received a letter from a non-medical correspondent who says that both he himself and a child, aged 10 years, were formerly greatly troubled with these pests. Our correspondent tried (doubtless under medical advice) many remedies but without success, until at last he took to having all drinking-water boiled, since when neither he himself nor the child has been troubled. The treatment usually recommended is that of enemata of solution of common salt, of solution of perchloride of iron, or of infusion of quassia together with a purgative. As, however, the main habitat of the worm is in the cæcum and not in the rectum it is obvious that rectal injections will generally fail to dislodge the main body of the parasites. Cobbold used to recommend aloes and assafœtida for adult patients and for young children small doses of perchloride of iron together with a saline purgative. But in no disease is the principle of *obsta principiis* more to be remembered than in cases where a patient is infested with oxyurides. Water should be boiled, though this is not the usual medium of infection, for the ova quickly die in water, and uncooked vegetables or fruit should be washed before being eaten. But in most cases the process of infection is a sort of vicious circle—namely, by the hands of the sufferer himself, the ova being conveyed to the hands by scratching and thence to the mouth again. Strict personal cleanliness is therefore of the highest importance and the nails should be kept as short as possible.

THE PRODUCTION OF BACTERIAL DISEASE IN RATS AND MICE.

IN April, 1900, Professor Danysz of Paris published in the *Annales de l'Institut Pasteur* an account of a micro-organism pathogenic to rats, whether given in their food or by subcutaneous injection, and presenting some resemblance to Löffler's "mouse typhus" bacillus and to the bacterium coli. Bacilli which had been once passed through an animal killed rats in from seven to 12 days, but by successive passages through animals their virulence diminished and finally disappeared altogether. Professor Danysz was very successful in experiments which he made on a large scale for the destruction of rats in drains by this means, for the dead rats were eaten by the others and thus the disease was spread. With a view to test the applicability of the method for the destruction of rats in time of plague Dr. J. Kister and Dr. P. Köttgen of the Public Health Institute in Hamburg have made a number of observations which are published in the *Deutsche Medicinische Wochenschrift* of May 2nd. They found, like Professor Danysz, that the virulence of the bacillus for rats diminishes with successive passages through the animal organism, and after about 10 passages it no longer causes death. For their experiments they grew pure cultures from the heart-blood of dead animals on agar plates. The weight of an agar plate stroke culture mass of 24 hours' growth was about nine milligrammes, and a rat was, on an average, given bread soaked in fluid containing one of these. These rats, after they had eaten the whole of the bread, were put in a cage with a large number of healthy rats. The latter did not fall ill if the infected rats as they died were immediately removed from the cage, but

if food were withheld, so that the dead rats were eaten by the others, the disease immediately spread and the rats infected from the dead bodies died in about the same time as those which were fed on the bread to which the cultures were added. Fowls, cats, dogs, and guinea-pigs to which the bacilli were administered suffered from no symptoms of illness whatever. The rats killed in this way never showed the swellings of the lymph glands or the hæmorrhages into the internal organs and into the subcutaneous connective tissue which are almost invariably found in rats that have died from plague.

THE ANNUAL DINNER OF THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

THE annual dinner of the West London Medico-Chirurgical Society was held on Wednesday last, May 8th, at Frascati's Restaurant. The President, Dr. F. F. Schacht, was in the chair, and the list of speakers included, among others, the names of Sir Richard Douglas Powell, Dr. F. W. Pavy, Mr. Howard Marsh, Mr. C. B. Keetley, and Dr. Seymour Taylor. About 130 members and guests attended. Dr. Pavy, President of the Royal Medical and Chirurgical Society, in replying to the toast of "Kindred Societies," spoke eloquently upon the extension of medical knowledge and science which had taken place during the last few years, pointing out that this had led to the formation of many medical societies founded for the consideration of all the various points of interest in the different branches of medicine and surgery. The enormous increase in the population of London alone had created districts far away from the centre where the older societies had their home and younger societies had been constituted to fill the want of a local centre of discussion. The West London Medico-Chirurgical Society was formed in this manner, and though the older societies could not help feeling that these vigorous saplings drew a certain amount of sap from the parent stem, the feeling towards them was one of congratulation, for it was recognised that they had the same object as their seniors—viz., the extension and diffusion of medical knowledge for the good of humanity.

THE HEALTH PROSPECTS OF HAVANA UNDER THE UNITED STATES GOVERNMENT.

WE have received a copy of a very interesting communication from the chief sanitary officer in Havana, Cuba, to the Adjutant-General, Department of Cuba, regarding the vital statistics of Havana for the month of March last. The population numbers 253,333 and Major W. C. Gorgas, Surgeon in the United States Army, the chief sanitary officer, invites the attention of the major-general commanding to the continued excellent sanitary condition of the city as shown by the general death-rate of 26·28 per 1000 which is considerably lower than that of any March since 1889—the lowest previous rate for the preceding 11 years being that of 1893 when it was 27·60; the highest that of 1898, the last year of Spanish occupation, when it stood at 78·00. It will be seen from this that there has been a steady decrease since the American occupation and that Havana will now compare favourably with many other of the larger cities of the world. As regards yellow fever the report is especially good. It shows four cases and one death. The only two years since 1889 showing as small a number of deaths as this were 1892 and 1899, when there was one death in March for each of these years. In 1900 during March there were 11 cases and four deaths. "As a matter of fact we have had only one case of yellow fever in Havana since March 1st, and since March 23rd the city of Havana has been entirely free from that disease. This is the first time this has occurred since June, 1899. There were two occasions in 1900 when we went for a few days with no fever, but none since the time mentioned that we have been free from fever as long as at the present." "I feel very much encouraged at the prospects for the summer." The chief sanitary officer thinks that the present freedom from fever is in part due to the systematic and extensive way in which the mosquitoes have been killed. He states that he has the greatest hopes of destroying the foci as they appear by systematically killing the mosquitoes over a large area around each focus as it occurs. He is inclined to think that they have been free from fever for a longer time than has ever occurred in Havana before. With regard to small-pox the report is equally satisfactory. Not a single case has occurred in Havana since August, 1900. These two diseases, yellow fever and small-pox, have been looked upon as being endemic in Havana; consequently the present state of affairs is particularly worthy of remark. A large amount of sanitary work is being done and bacteriological examinations are being instituted.

NICOTINE AND FUSEL OIL.

MODERN researches are distinctly tending to show that neither are the poisonous effects of unlimited tobacco-smoking due to nicotine nor are the toxic consequences of excessive whisky drinking due to fusel oil. Whisky certainly does contain fusel oil and tobacco contains nicotine, but while the fusel oil directly reaches the system it is practically certain that the nicotine of tobacco does not occur as such, at any rate to any extent, in the smoke. By far the greater portion of the nicotine in tobacco—and as we have shown the amount of nicotine in Virginia tobacco does not often exceed 1 per cent., although there is a popular idea that the quantity of nicotine is much more than this—is destroyed by the combustion. New products, however, are formed, consisting of tobacco tar-oils which are undoubtedly poisonous. The foul smell of a well-used pipe is due to these oils, in which analysis has shown but a trifling quantity of nicotine. The composition of these oils indicates that they are very closely related to nicotine, and their chief constituent is pyridine, and it and its "relatives" are responsible for the violent headache, trembling, and giddiness following excessive smoking. The degree of toxicity of the smoke, however, probably depends largely upon the completeness of the combustion. The combustion of the cigarette is probably more complete than that of the tobacco in a pipe or of the uncut leaf of a cigar. But the pipe serves as a condenser, the condensed products not reaching the mouth. The filthy fluid accumulating in a pipe is very poisonous. A good deal of condensation must take place in the cigar and, moreover, the products reach the mouth and are absorbed. According to this we should place in the order of injuriousness, beginning with the worst first, the cigar, the pipe, and the cigarette. The experience of juvenile smokers or beginners would seem to bear out this classification. With the schoolboy the first step to smoking is the cigarette, then the pipe, and later he is tempted to try the cigar. Much in the same way that nicotine was credited with being the poisonous agent in smoking, so fusel oil has been looked upon as the constituent producing the train of symptoms (chiefly headache) following a free potation of not too good whisky. It is now shown that, comparatively speaking at any rate, fusel oil is not the injurious constituent of whisky. It is rather the aldehydes, the partly oxidised alcohols in whisky, which are mischievous, and the chief amongst these is furfural. Old matured whisky is free from furfural, while freshly made or unmatured spirit contains a marked amount of this constituent, the source of the throbbing headache of the heavy drinker. In the light of these interesting observations it is apparently no longer correct to speak of fusel oil in whisky

as the toxic body which it is desirable to eliminate or of nicotine as the poisonous constituent of tobacco smoke. In the former case it should be furfural and in the latter case pyridine and its congeners.

THE METROPOLITAN ASYLUMS BOARD.

THE resignation by Sir Edwin Galsworthy of the office of chairman is an event in the history of the Metropolitan Asylums Board. He has been a manager of the Board for 33 years and chairman for a period of 20 years. Opinions will vary as to the policy of the Board in developing the system of wholesale admission of all infectious cases to the hospitals of the Board without discrimination as to the social position and means of patients—a system which is said to cost £700,000 a year instead of £4000 which was the expenditure when Sir Edwin Galsworthy became a member. According to a statement by Mr. Elliott, one of the representatives for Islington on the Metropolitan Asylums Board, it is one of the most expensive boards in the kingdom. Originally intended for the poor, its hospitals are open to all comers, and patients are visited, according to Mr. Elliott, by "friends who come in a carriage-and-pair." This statement may be inaccurate or misleading, but it is certainly true that the doors of its hospitals are open to patients of all classes, and to classes for which these hospitals were never intended. And the development of this system certainly coincides with Sir Edwin Galsworthy's chairmanship. He has nevertheless been an able chairman who has displayed such a power of work, and such tact and ability, as have induced the managers to re-elect him to the chair for 20 years. We shall not choose this moment to be critical or to press the suggestion that the time is ripe for investigating the effect of the hospitals on infectious diseases and on the limitation of their spread, the more so as we fully recognise with the managers the great work which has been done and the great qualities which have been displayed by Sir Edwin Galsworthy, and we are ready to admit that the grave responsibility for the wholesale gratuitous treatment of disease in persons who are not paupers must rest ultimately not with him and his colleagues, but with Parliament and the Local Government Board which was intended to have some function in regulating the uses of these hospitals. The expenditure is part of that municipal expenditure which is grossly overlooked by Parliament and which is rapidly involving a debt that threatens to reach the proportions of the national debt.

A TELEGRAM from Sir W. F. Hely-Hutchinson, Governor of the Cape of Good Hope, states that for the week ending April 27th the total number of cases of plague admitted to hospital was 63; of this total 22 were Europeans, 35 were coloured, 5 were Malay, and 1 was a native. The deaths numbered 32—9 European, 18 coloured, and 5 Malay. The number of cases admitted up to midnight on April 27th was as follows: European, 135; coloured, 226; Malay, 26; Indian, 5; Chinese, 1; natives, 126; total, 519. Total deaths: Europeans, 41; coloured, 102; Malay, 20; Indian, 5; natives, 49; total, 217. A private in the Royal Engineers had been attacked. Among persons under naval and military control the total up to April 27th reached 43. No further cases have been discovered at Port Elizabeth. A case having all the symptoms of plague has been reported from Mafeking.

THE London Companies of the Volunteer Medical Corps are giving a dinner to welcome home the members of the corps returning from active service in South Africa. The dinner will take place at the Holborn Restaurant on Saturday next, May 18th, and communications from those intending to be present should be made to the honorary secretary of the Officers' Mess, 51, Calthorpe-street, London, W.C.

THE annual dinner of the Indian Medical Service will be held at Prince's Restaurant on Thursday, June 13th, at 7.45 P.M., Surgeon-General R. Harvey, C.B., D.S.O., the Director-General, in the chair. Officers intending to be present should communicate as early as possible with the honorary secretary, Mr. P. J. Freyer, 46, Harley-street, London, W.

THE annual dinner of the Chelsea Clinical Society will be held on Thursday, May 23rd, at 7.45 P.M. in the Princes Room of the Criterion Restaurant. Further particulars may be obtained from the honorary secretary, Dr. Austin Cooper, 41, Sloane-square, London, S.W.

LORD LISTER and Sir William Broadbent attended the first sitting of the Commission of Inquiry at the National Hospital for the Paralysed and Epileptic, Queen-square, London, W.C., on May 4th. The commission have continued their sittings since last Saturday.

THE twenty-third annual congress of the American Rhinological Association will be held in the Dwight Hall of Yale University on May 27th, 28th, and 29th. Dr. H. L. Swain of Newhaven is the President of the Congress for the year.

WE are glad to be able to congratulate Sir Frederick Treves, C.B., upon his knighthood, the King having conferred upon him since our last issue the distinction of Knight Commander of the Royal Victorian Order.

THE annual dinner of the Pharmaceutical Society of Great Britain will be held at the Whitehall Rooms of the Hôtel Métropole on Tuesday, May 21st.

A SERIOUS epidemic of scarlet-fever, prevalent in Shoreditch and Bethnal Green, has been traced to an infected milk-supply.

MEDICAL NOTES ON THE LIFE OF EDWARD GIBBON, THE HISTORIAN.

BY WILLIAM H. HORROCKS, F.R.C.S. ENG.,
HONORARY SURGEON, BRADFORD INFIRMARY.

IN studying the life-history of an individual long since dead the account has frequently to be drawn from non-medical sources and is of necessity indefinite and in parts incomplete. It is of interest to trace the effects of health and physique in shaping the career.

Edward Gibbon was born on April 27th, 1737, of parents in a good social position. His father contested a county election in times when rival candidates showered bribes on their bibulous supporters. Edward Gibbon was the oldest of six children, but the other five died at an early age. So feeble was his constitution that in the baptism of his brothers his father's name was given to each succeeding child. Gibbon in his autobiography says that his mother's attention was somewhat diverted by her frequent pregnancies, by an exclusive passion for her husband, and by the dissipation of the world. The maternal office was fully supplied by his aunt who not only tended him with care but sought the medical aid of every practitioner from Sloane to Ward. As he had trouble with his sight the services of Chevalier Taylor, a well-known quack oculist, were called into request. So he passed a sickly childhood with frequently interrupted attempts at education. When he was 13 years of age he suffered from a strange nervous affection which alternately contracted

his legs and produced, without any visible symptoms, the most excruciating pain. For this he was treated at Bath "by bathing and pumping." Writing to Lord Sheffield in later life he thus sums up his early history: "I was a puny child, neglected by my mother, starved by my nurse, and of whose being very little care or expectation was entertained; without the vigilance of my aunt I should have gone to my grave or imperfectly lived a crooked rickety monster, a burden to myself and others. It might be apprehended that I should continue through life an illiterate cripple, but as I approached my sixteenth year nature displayed in my favour her mysterious energies. My constitution was fortified and fixed and my disorders, instead of growing with my growth and strengthening with my strength, most wonderfully vanished. I have never possessed nor abused the insolence of health, but since that time few persons have been more exempt from real or imaginary ills."

At 15 years of age Gibbon was admitted a gentleman commoner at Magdalen College, Oxford. His duties here were not arduous, for after paying his fees he was not further troubled by his tutors during his term of residence. No college lectures were delivered and the life of the professors was spent in hunting, dining, and discussing the politics of the day. Gibbon's naturally studious inclinations led him to read deeply in classics, to which he had ready access. His father, however, cut short his university career on hearing that his son had become converted to the Roman Catholic faith. He was withdrawn from Oxford and sent to Lausanne to be under the care of a Lutheran minister. Here Gibbon continued his student life under the guidance of an able teacher. "The desire of prolonging my time of study gradually confirmed the salutary habit of early rising to which I have always adhered. It is happy for my sight and my health that my temperate ardour has never induced me to trespass on the hours of the night." After three years at Lausanne he returned to England, where he lived until the death of his father. Gibbon then returned to Lausanne and began his great life-work, "The History of the Decline and Fall of the Roman Empire." This work was published in six quarto volumes between 1766 and 1787. Early in 1790 Gibbon had an attack of gout which began with acute pain in the foot and was followed by weakness in the knees, which kept him a prisoner for several months. The length of this attack may possibly be accounted for by the pipe of excellent port which his friend Lord Sheffield had sent him.

In 1791 Gibbon's health showed evident signs of failure. "Although he was inclined to represent his health as better than it really was his habitual dislike to motion appeared to increase. His inaptness to exercise confined him to the library or dining-room, and there he joined Mr. Frederick North in arguments against exercise in general. He ridiculed the unsettled and restless disposition that summer, the most uncomfortable of all seasons, generally gives to those who have free use of their limbs." In a letter to Lord Sheffield in November, 1793, Gibbon writes: "I must at length withdraw the veil before my state of health, tho' the naked truth may alarm you more than a fit of gout. Have you never observed through my inexpressibles a large prominency, which, as it was not at all painful and very little troublesome, I have strangely neglected for many years? But since my departure it has increased, is increasing, and ought to be diminished. Yesterday I sent for Farquhar, who is allowed to be a very skilful surgeon. After viewing and palping he very seriously desired to call in assistance, and has examined it again to-day with Mr. Clive, a surgeon of the first eminence. They both pronounce it a hydrocele (a collection of water) which must be let out by the operation of tapping, but from its magnitude and long neglect they think it a most extraordinary case and wish to have another surgeon, Dr. Baillie, present. If the business should go off smoothly, I shall be delivered of my burden (it is almost as big as a small child), and walk about in four or five days with a truss. But the medical gentlemen, who never speak quite plain, insinuate to me the possibility of an inflammation, of fever, &c." A few days afterwards Gibbon was tapped for the first time, four quarts of a transparent watery fluid being evacuated. Neither fever nor inflammation ensued and the tumour was reduced to nearly half its size. The remaining part was a soft, irregular mass. He was about again in a few days, but the water collected very fast. The swelling was again tapped in a fortnight, this operation being more searching and painful than the first, but it eased and lightened him to a much greater degree. Three quarts of a similar fluid were discharged; "no inflammation; a good night; permission to go out on the following day, and to await the future measure of a radical cure."

On Dec. 23rd, 1793, his appetite began to fail; a considerable degree of fever now made its appearance. Inflammation arose from the weight and bulk of the tumour and water again collected very fast. The tumour became more distended and ulcers formed in many places. Remedies were applied to abate the inflammation but it was not thought proper to puncture the tumour a third time until Jan. 13th, 1794. He seemed much relieved by the evacuation. On the third day after the operation he complained much of his stomach and of a disposition to vomit. Soon after 9 P.M. he went to bed and took his opium draught; he became gradually weaker and died on the following day. At the post-mortem examination the following condition was found. The scrotum formed a large sac which descended almost to the knee. The skin covering it was ulcerated at several spots. The sac contained part of the colon and the whole of the omentum, which was much enlarged. The stomach was dragged down so that its orifice was near the pubes. "This," the writer says, "was probably the cause of death." On the omentum and intestine were small spots of livid colour. In the liver a great number of small tubercles were seen.

It is very evident from the account of the illness and examination that Gibbon died from septic infection. The first two tappings were satisfactory, but after the second tapping the skin of the scrotum sloughed and the third tapping infected the sac. This caused a localised peritonitis of the sac and its contents with secondary abscesses in the liver. From this description it appears that his disease was irreducible hernia with accumulation of fluid in the sac and not, as usually stated, hydrocele of the tunica vaginalis.

PROVISIONAL RETURNS OF THE CENSUS OF 1901.

WE are indebted to the Registrar-General for the tables at the end of the present article which give the first results of the recent English census. The present list is limited to the metropolitan boroughs and the county boroughs of England and Wales. It is based on the summary returns furnished by the local registrars, and accordingly must be regarded as provisional only, being subject to modification in detail when, in due course, the enumeration books have been received and scrutinised at the central office. The publication of census returns by instalments, whilst in some respects a desirable arrangement, is nevertheless likely to give rise to more or less dissatisfaction among the dwellers in those districts which are not included in the earliest lists. Others, again, will be impatient because a statement of the entire English population is not furnished at once. But a little consideration will show that the labour of accurately summarising and tabulating the populations of a vast number of small and highly complex areas is very considerable and is calculated to tax severely the energy and ingenuity of any staff; added to which we are officially informed that the local registrars were not instructed to transmit their summaries to the central office until April 27th at the earliest. We, therefore, are of opinion that credit is due to the authorities at Millbank for having prepared and published within ten days of the commencement of the work a summary which deals with the metropolis and with the whole of the more important towns of England and Wales.

Turning first to London, we find that on April 1st the administrative county contained 4,536,034 people, being an increase of more than 307,000 on the number enumerated 10 years ago. Estimated to the middle of the present year the population of the metropolis is 4,543,700 in round numbers, which is below the estimate based on the increase between the two previous censuses by more than 107,000. In the several metropolitan boroughs the movement of the population since the last census has been very unequal. In seven of the boroughs—namely, Bermondsey, Finsbury, Holborn, St. Marylebone, Shoreditch, and the Cities of London and Westminster—there has been a decrease in the population, whilst in the remainder of the metropolis the numbers have increased, the increase having been greatest in Wandsworth, Woolwich,

and Lewisham. In the 67 provincial county boroughs there has been inequality in the movement of population quite as marked as that which has occurred in the metropolis. In a few of the older towns the population has remained almost stationary, and in others, such as Bath and Chester, there has been some slight decrease since 1891; but in the great manufacturing cities, such as Liverpool, Manchester, Birmingham, Leeds, and Sheffield, there have been increments of population in the last decade ranging from 40,000 to 60,000, and even 60,000.

It is chiefly in relation to vital statistics that the returns of the census are interesting and serviceable to our profession. Students of preventive medicine generally, and especially those holding public health appointments, have to rely entirely on these returns for the correction of the estimates of population on which local rates of sickness and mortality are computed, and thus a test is provided by which the results of sanitary improvements can be judged. From this point of view it will be useful to compare the estimates of population based on the recent enumeration with those calculated beforehand, on the theory that the rate of increase or of decrease in the last intercensal period has been maintained since 1891. Taking the 33 great towns of the Registrar-General we note that the populations of 24 of them, including London, had been over-estimated, in several instances very seriously; that in five cases they had been underestimated; and that in four cases only did the previous estimate agree closely with the results of the recent census.

Under these circumstances it is clear that for purposes of accurate vital statistics an enumeration of the people ought to be taken more frequently than once in ten years, and we hope that when the quinquennial London census of 1906 comes to be provided for arrangements will be made to extend the provisions of the Metropolitan Act to the remainder of England and Wales.

Population enumerated in 1901 in the 67 County Boroughs of England and Wales.

County boroughs.	Enumerated population, 1901.	County boroughs.	Enumerated population, 1901.
Barrow-in Furness ...	67,589	Leicester	211,574
Bath	49,817	Lincoln	48,783
Birkenhead	110,906	Liverpool	685,276
Birmingham	542,182	Manchester	543,930
Blackburn	127,527	Middlesbrough ...	91,300
Bolton	168,205	Newcastle-upon-Tyne	214,908
Bootle	58,431	Newport (Monmouth)	67,279
Bournemouth	47,003	Northampton ...	87,021
Bradford	279,809	Norwich	111,728
Brighton	123,478	Nottingham	239,753
Bristol	328,836	Oldham	137,238
Burnley	97,044	Oxford	49,413
Burton-upon-Trent	50,286	Plymouth	107,509
Bury (Lancashire) ...	58,038	Portsmouth	189,160
Canterbury	24,401	Preston	112,910
Cardiff	164,315	Reading	72,214
Chester	38,281	Rochdale	83,112
Coventry	69,877	Saint Helens	84,410
Croydon	133,895	Salford	221,015
Derby	105,785	Sheffield	380,717
Devonport	69,674	Southampton ...	104,911
Dudley	48,939	South Shields ...	97,272
Exeter	47,180	Stockport	78,871
Gateshead	109,891	Sunderland	146,823
Gloucester	47,944	Swansea	94,505
Great Yarmouth ...	51,250	Walsall	86,440
Grimsby	63,119	Warrington	64,241
Halifax	104,937	West Bromwich ...	65,172
Hanley	61,519	West Ham	267,308
Hastings	65,522	Wigan	60,770
Huddersfield	95,008	Wolverhampton ...	94,179
Ipswich	66,622	Worcester	46,623
Kingston-upon-Hull	237,796	York	77,793
Leeds	428,953		

Population enumerated in 1901 in the Administrative County of London and in the 29 Metropolitan Boroughs.

Metropolitan boroughs.	Enumerated population, 1901.	Metropolitan boroughs.	Enumerated population, 1901.
City of London ...	26,908	Lambeth	301,873
Battersea	168,896	Lewisham	127,460
Bermondsey	130,486	Paddington	143,964
Bethnal Green	129,681	Poplar	168,838
Camberwell	259,258	St. Marylebone ...	133,329
Chelsea	73,856	St. Pancras	235,284
Deptford	110,513	Shoreditch	118,705
Finsbury	101,476	Southwark	206,128
Fulham	137,289	Stepney	298,548
Greenwich	95,757	Stoke Newington ...	51,247
Hackney	219,288	Wandsworth ...	232,030
Hammersmith	112,245	Westminster, City of	182,977
Hampstead	81,902	Woolwich	117,165
Holborn	49,390		
Islington	334,928	Administrative County of London	4,536,634
Kensington	176,623		

THE REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1899.

FIRST NOTICE.

THESE reports are so ably drawn up and contain such an excellent *résumé* of the latest information and literature on the subjects of which they treat that we always welcome their appearance and regret that they are not better known to the profession generally than they seem to be. In this respect, however, they probably only share the fate of other Government documents drawn up with great labour and skill. The fact that these annual reports happen to deal largely with statistical data relating to the public health that obtained in India a year or two previous to the date of their publication probably has a deterrent effect on the readers of medical literature other than those directly interested in Indian affairs. All we can say is that it is unfortunate if this be so, for the reports, as we have said, contain a mass of valuable and carefully compiled scientific information regarding the etiology and pathology of a variety of diseases which is not to be elsewhere met with in such a compendious form. From an official standpoint the statistical data and the conclusions that may be deduced from them are invaluable to statesmen, to military authorities, and to others connected with the government and wellbeing of India, because many of these conclusions, having been derived from observations drawn from large numbers and repeated over a long series of years, may be regarded as very much in the light of natural laws. They must therefore be taken into practical account in considering any Indian policy or dealings with that country. They may be regarded, too, as the only available guides which we have for forming an estimate of what may be expected to occur in other climates of a tropical or sub-tropical kind. It would be a great mistake, however, to suppose that the value of these reports is circumscribed within these limits. It is their medical interest and value with which we are concerned and it is in these respects that we hope to show that they are not lacking.

Starting with the European army in India we may, in the first place, give a summary or bird's-eye view of the statistical results. The health of the European troops in 1899 was again much better than in the preceding year, the rate of invaliding only being greater than in the corresponding decennial ratio. The year on the whole was hot and dry, with deficient rainfall. To these meteorological conditions is attributed in the report the fact that the admission-rate, death-rate, and invaliding-rate from malarial fevers were much reduced. The total strength of the

European army in India was 67,697 in 1899. The chief causes of admission were venereal diseases and ague. The former caused 27 per cent. of the total sickness and ague 20 per cent. The chief causes of death were enteric fever and hepatic abscess. Enteric fever caused 40 per cent. of the total deaths and hepatic abscess 10 per cent. The causes of invaliding were numerous and need not be enumerated. A table is given of the comparative ratios of the different military commands. Bengal had the highest mortality from heat-stroke, tubercle of the lungs, and dysentery; the Punjab the highest rate from enteric fever, remittent fever, pneumonia, and other respiratory diseases; and Madras, which recorded the lowest mortality-rate but the highest constantly-sick and admission rates, had the highest death-rate from hepatic abscess. All the commands were more healthy than in 1898. Of the larger military stations Peshawar, Lucknow, Umballa, and Bangalore return the highest death-rates. There was only one case of cholera in the whole of the European army in India in 1899, and "never before in the records of this office," says the Sanitary Commissioner with the Government of India, "has so low a mortality appeared." There can, we think, be little doubt that the persistent efforts in carrying out sanitary improvements in all that concerns the European army in India have had a most favourable effect, for we no longer hear of the widespread epidemics and outbreaks of cholera in cantonments which were once so frequent. It is remarkable how little we still really know, however, of the conditions which give rise to the widespread prevalence of a disease with its epidemic intensity in one year, and its dormancy or almost complete disappearance during other years where the conditions, whether meteorological or otherwise, seem to be identical or nearly the same in both cases alike. The phenomenon is of too striking a character not to have attracted notice always, and its explanation was once vaguely relegated to an epidemic constitution of the year or season. Explain it as we may, it makes all the difference in India if it is, as recognised by the natives of that country, a cholera year or not—whether the land is to be devastated by disease, or, in spite of having numerous foci of infection apparently ready for its spread, it is to have complete or comparative immunity from it in epidemic extent and force.

The subject of fever in India is a very wide and ill-defined one owing to the different forms and varieties of fever not having been accurately differentiated from one another. With regard to cases of remittent fever, about the exact nature of which there apparently exists some doubt, we may say that at Shwebo the disease, often of a severe type, was in all cases contracted in the very malarious forests to the north-east of the station where the natives, towards the end of the rains, had been dying in numbers from that disease. Of 11 fatal cases 10 of the bodies were examined. In five no very definite lesions were discovered, and in the remaining five the lesions were of various kinds, but not characteristic or indicative of enteric fever. At Barrackpore cases suspected of being enteric fever, but not reacting to Widal's test, were returned as remittent fever, but they did not respond to the exhibition of quinine. Of the cases of so-called "simple continued fever" some are forms of heat fever or various local and constitutional affections attended with febrile disturbance, some turn out to be enteric fever or of a malarial or influenzal nature, and some appear to be cases of mistaken diagnosis. Latterly it has been suspected that the form of fever known as "Malta fever" or "undulatory fever" prevails in India, and a number of such cases are being discovered both among Europeans and natives. But we are told that "the experience of the past should warn those in authority, while encouraging the research, to exercise a certain amount of reserve in the acceptance of at least the earlier results. After all, serum diagnosis is still in its infancy or just emerging therefrom."

We now come to the subject of enteric fever, about the literature of which the report, together with the preceding one for 1898, contains a large amount of admirably compiled and interesting information. Among other references, it largely lays under contribution the Goulstonian Lectures for 1900 by Dr. P. Horton-Smith as adding some recent and very valuable information about enteric fever from its scientific side. The report quotes among the more general conclusions at which Dr. Horton-Smith has arrived those illustrative of the distribution of the typhoid bacillus to the most diverse organs throughout the body, showing that "any conception of the disease which regards it merely as affecting the alimentary canal only can no longer be maintained." (We may parenthetically remark here that the use of the term "enteric" in army medical nomenclature is consequently misleading and no longer warranted.) So far from considering it as an intestinal disease pure and simple, it should rather be looked upon as a modified form of septicæmia, for the bacilli always and in all cases pass into the blood and then into the various organs. For years past precautions have been taken as regards the intestinal discharges. But it is the subject of the urine in its relations to the enteric bacillus, since the discovery of the bacillus in that fluid during the later stages of the disease and sometimes for a very considerable time afterwards, that has of late engaged so much attention. The bacillus gives rise in the skin to the typical eruption and Fraenkel has been able to show the multiplication of the bacillus in some excised roseola spots kept under proper conditions and with proper precautions. In stained sections he was able to find little heaps of bacilli lying in the papillary portions of the cutis and to demonstrate thereby that the roseola is not merely a hyperæmia, but a local lesion caused by the bacillus. The Sanitary Commissioner with the Government of India quotes as interesting to sanitarians in India some remarks from an article in THE LANCET on the endemic fever of English towns,[1] with special reference to the report of the medical officer of health of Chichester. *Apropos* of the prolonged infectiousness through the urine, for example—which is on the whole more dangerous than the fæces in this respect—of persons apparently restored to health after an attack of enteric fever, and the power of the bacillus to resist the effect of desiccation it becomes easy to understand how bacilli eliminated from the body may pass into the atmosphere and subsequently give rise to disease by being carried in the form of dust. Whether it be in this way or by an actual growth of the bacillus in the soil outside the human body is a question which can be settled only in the future. The report then takes up and discusses a number of points connected with water, filters, chemical purifiers, and bacteriology, together with some questions of a medical and pathological kind. However interesting these may be we must not linger over them.

The great practical point connected with the returns of enteric fever in the European army serving in India is the marked improvement that has taken place in 1899 and the way in which it is to be explained. In 1898 the disease caused 2375 admissions and 654 deaths, and in 1899 (the year under report) there were 1392 admissions and 348 deaths. The admission-rate fell from 36·9 to 20·6 and the death ratio from 10·17 to 5·14. From this it will be seen that there has been a very marked fall indeed in the number of cases and a still more marked diminution in the mortality—the latter, indeed, being less than it has been for the previous nine years. While we may congratulate ourselves on this fact we wish that we could equally congratulate ourselves on any assured belief that we were at last on the right road; that, as these results were the first-fruits of an application of modern methods of preventive medicine in India, so we had only to continue and to increase our efforts to ensure a progressive improvement in the future. The report does not, however, give us any assurance of the kind. It practically ascribes the change to two factors—first, that owing to the war in South Africa the influx of drafts from home was stopped during part of the year, and, secondly, that there was no field service going on in India during the year. Seeing that the liability to die from enteric fever during the first year of residence in India is far greater than in any subsequent year it follows that in proportion as the supply of this susceptible material is reduced or cut off will there be a corresponding reduction in the prevalence and amount of this fever. It is, as we know, a well-established fact that enteric fever affects the young and recently-arrived soldier. Of 100 cases of enteric fever 43 will be in patients between the ages of 20 and 25 years, and of 100 cases occurring in adults of all ages no less than 38 occur during the first year of residence in India and 60 in the first two years. With regard to the second factor—that there was no field service going on in India in 1899—we have to remember that in the preceding year there were the Tirah field force, the Khyber force, and the Malakand force, all of which suffered more or less heavily from enteric fever. In the case of Quetta, where there had been a great decrease in the amount of enteric fever, this decrease might have been fairly attributed to the sanitary measures adopted in 1898

[1] THE LANCET, July 21st, 1900, p. 199.

but for a significant footnote in the report that there had been a renewed outbreak in 1900. With regard to the effect which protective inoculation against enteric fever may have exerted it would be premature to form any decided opinion at present, but so far as we know and so far as India is concerned its effect seems to be favourable in safeguarding the constitution against attack. We have still, however, to await the results of the returns from the army in South Africa.

THE ROYAL SOCIETY CONVERSAZIONE.

THE annual conversazione of the Royal Society was held on May 8th, when an unusually large number of Fellows gathered together to witness the exhibits, to exchange ideas, and to welcome the new President, Sir William Huggins, K.C.B., D.C.L. The exhibits covered a very wide range of scientific subjects and for the most part were of a severely technical kind and beyond the grasp of the average man.

The beautiful experiments shown by Mr. J. E. Barnard and Dr. Allan Macfadyen of the Jenner Institute were, however, very generally appreciated. In a darkened corner of the library they exhibited luminous cultivations presenting an eerie blue light emitted by specific bacteria. The luminous properties of these bacteria, which are well illustrated in such familiar objects as dead fish, meat, and other substances, are dependent upon a supply of free oxygen and a suitable amount of a soluble chloride in the nutritive medium. The light ceases in the absence of oxygen, but on shaking a culture with air the whole mass glows brilliantly. Phosphorus has nothing to do with this, as has been popularly supposed. The light calls to mind that of luminous paint. By its aid a book may be read and the position of the hands of a clock made out. Equally attractive were the experiments of Mr. W. Duddell, who succeeded in drawing musical sounds from the electric arc light. This is done by superposing alternating currents on the direct current through the arc, the result being the setting up of vibrations producing a musical note. The pitch can be varied by altering the capacity or self-induction, and a tune can be played on the arc by this means. It was found during the evening that the tunes played on the experimental arc were simultaneously produced in the arc lights in other parts of the building and in the street. Representatives of the press were attracted most by the telegraphone, a combined telephone and phonograph receiving, recording, and transmitting. The instrument dispenses with the mechanical arrangement of a sharp point acting upon a wax surface, the whole performance being brought about by induced currents. A message may be received along a single cable and distributed at the same time through any number of wires. Moreover, it is calculated to curtail the labour of heavy correspondence; messages of considerable dimensions can be recorded and packed off in very small compass on a steel ribbon. A speech of an hour's duration may be thus contained on a steel ribbon occupying not more than a litre of space.

Specimens of the so-called "blood-rain," which fell in Sicily were shown by Professor Rücker and Professor Judd, C.B. In two experimental areas the dust collected was equal to a fall respectively of five and a half and nine and a quarter tons to the square mile. It is said that this dust derived from Northern Africa was noticed as far north as Hamburg. Close by these specimens were some huge specimens of chromium, manganese and cobalt in the metallic state, obtained by reducing the oxides with finely divided aluminium. They were exhibited by Sir W. Roberts Austen, K.C.B. Mr. G. Abbott, M.R.C.S. Eng., illustrated "growth" in inorganic matter by his interesting specimens of the cellular or magnesian limestone simulating corals. The "molecular directive force" produces patterns suggestive of an organised structure. Dr. P. L. Sclater exhibited two bandoleers from the Congo State and made from the skin of a hitherto unheard-of mammal, probably allied to the zebra. The specimens were obtained by Sir Harry Johnston, Special Commissioner in Uganda. The Zoological Society showed living specimens of the helo-derm from Arizona, the only venomous lizard known; and close by Dr. J. H. Gladstone exhibited some interesting specimens of ancient Egyptian gold from the tombs of the kings of the 1st dynasty, and next to these were some casts and photographs of Egyptian jewellery of the 1st dynasty, 4700 B.C., shown by Mr. Flinders Petrie, D.C.L. Amongst them were four bracelets which belonged to the Queen of King Zer.

One of the most interesting and important exhibits was the excellent collection of microscopical specimens illustrating West African Parasitology by the School of Tropical Medicine, University College, Liverpool. The objects included 12 new specimens of hitherto undescribed blood filariæ of birds. Further objects illustrated the life-history of the intestinal parasite (ankylostoma duodenale) of the chimpanzee. Close by this interesting demonstration Mr. J. Mackenzie Davidson exhibited some very pretty stereoscopic transparencies of electrical discharges, and also some stereoscopic skiagrams of bullet wounds, the photographs having been taken during the South African war. The exact position of the bullet is shown by mere inspection in the stereoscope. Mr. Eric S. Bruce's meteo-parachute, a new instrument for investigating the upper atmosphere, attracted a deal of attention by reason of its ingenuity and promised usefulness. It consists of a parachute containing the instruments—thermometers, for example—attached to a balloon. By means of a clockwork arrangement the parachute may be made to detach from the balloon at any given moment, bringing the record of observation gently and gracefully to the feet of the investigator. In fact, the meteo-parachute ensures the safe return of the recording instruments to the ground at any moment that the experimenter determines before the ascent of the balloon.

We understand that the usual second conversazione of the Royal Society, an event generally known as Ladies' Night, will not be held this year owing to the death of Queen Victoria.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6517 births and 3799 deaths were registered during the week ending May 4th. The annual rate of mortality in these towns, which had been 19·7, 18·9, and 18·4 in the three preceding weeks, further declined last week to 17·3 per 1000 of the population, provisionally estimated, on the unrevised results of the recent census, to be 11,469,114 persons in the middle of the year. In London the death-rate was 16·7 per 1000, while it averaged 17·7 in the 32 large provincial towns. The lowest death-rates in these towns were 9·7 in Croydon, 11·5 in Leicester, 12·7 in Wolverhampton, and 13·2 in West Ham; the highest rates were 21·3 in Sunderland, 21·6 in Bolton, 24·1 in Gateshead, and 26·5 in Swansea. The 3799 deaths in these towns included 394 which were referred to the principal zymotic diseases, against 346 and 363 in the two preceding weeks; of these, 133 resulted from whooping-cough, 107 from measles, 55 from diphtheria, 45 from diarrhœal diseases, 34 from scarlet fever, and 20 from "fever" (principally enteric). No death from any of these diseases was registered last week in Croydon, Plymouth, Huddersfield, or Halifax; in the other towns they caused the lowest death-rates in Wolverhampton, Norwich, and Oldham, and the highest rates in Portsmouth, Bolton, Hull, and Gateshead. The greatest proportional mortality from measles occurred in Portsmouth, Liverpool, Bolton, Hull, and Gateshead; from scarlet fever in Preston; from whooping-cough in Swansea, Birmingham, Derby, Manchester, Bradford, and Hull; and from diarrhœal diseases in Swansea. The mortality from "fever" showed no marked excess in any of the large towns. The 55 deaths from diphtheria included 20 in London, six in Sheffield, five in Salford, four in Manchester, and four in Leeds. No fatal case of small-pox was registered in any of the 33 towns; and no small-pox patients were under treatment during last week in any of the Metropolitan Asylums hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1705, against 1601, 1526, and 1522 on the three preceding Saturdays; 371 new cases were admitted during the week, against 205, 150, and 196 in the three preceding weeks. The deaths referred to diseases

of the respiratory organs in London, which had been 374 and 286 in the two preceding weeks, further declined last week to 251, and were 78 below the corrected average. The causes of 45, or 1·2 per cent., of the deaths in the 33 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Salford, Leeds, and in 13 other smaller towns; the largest proportions of uncertified deaths were registered in Swansea, Liverpool, Halifax, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined from 24·1 to 22·9 per 1000 in the four preceding weeks, further declined to 21.2 during the week ending May 4th, but showed an excess of 3·9 per 1000 over the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 18·9 in Leith and 19·4 in Aberdeen to 24·0 in Dundee and 25·0 in Greenock. The 666 deaths in these towns included 39 which were referred to whooping-cough, 17 to measles, 12 to diarrhœa, eight to scarlet fever, three to small-pox, two to diphtheria, and two to "fever." In all, 83 deaths resulted from these principal zymotic diseases last week, against 95, 117, and 120 in the three preceding weeks. These 83 deaths were equal to an annual rate of 2·6 per 1000, which was 0·8 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 51, 56, and 62 in the three preceding weeks, declined again last week to 39, of which 16 occurred in Glasgow, 15 in Edinburgh, and eight in Dundee. The deaths from measles, which had increased from 16 to 25 in the four preceding weeks, declined again to 17 last week, and included six in Glasgow, four in Edinburgh, four in Leith, and two in Paisley. The fatal cases of diarrhœa, which had been 23 and 13 in the two preceding weeks, further declined last week to 12, of which four were registered in Glasgow, three in Edinburgh, two in Aberdeen, and two in Leith. The eight deaths from scarlet fever corresponded with the number in the preceding week, and included six in Glasgow. The fatal cases of small-pox, which had been six, 10, and three in the three preceding weeks, were again three last week, and were all recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 130 and 169 in the two preceding weeks, declined again last week to 125, but slightly exceeded the number in the corresponding period of last year. The causes of 40, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 35·6, 35·4, and 29·4 per 1000 in the three preceding weeks, further declined to 26·5 during the week ending May 4th. During the past four weeks the death-rate in the city has averaged 31·7 per 1000, the rate during the same period being 17·8 in London and 23·8 in Edinburgh. The 176 deaths of persons belonging to Dublin registered during the week under notice were 19 below the number in the preceding week, and included 13 which were referred to the principal zymotic diseases, against 18 and 10 in the two preceding weeks; of these, nine resulted from whooping-cough, two from "fever," and two from diarrhœa. These 13 deaths were equal to an annual rate of 2·0 per 1000, the zymotic death-rate during the same period being 1·7 in London and 4·2 in Edinburgh. The fatal cases of whooping-cough, which had been nine and eight in the two preceding weeks, rose again last week to nine. The deaths from "fever," which had been two, three, and one in the three preceding weeks, rose again to two last week. The 176 deaths in Dublin during the week under notice included 22 of children under one year of age and 43 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Two inquest cases and two deaths from violence were registered; and 62, or more than a third, of the deaths occurred in public institutions. The causes of five, or nearly 3 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: A. E. Weightman to the *Pegasus*, and G. T. Collingwood to the *Diadem*. Surgeon B. Scribner to the *Duke of Wellington* for disposal.

ROYAL ARMY MEDICAL CORPS.

Brigade-Surgeon-Lieutenant-Colonel James Duncan, 3rd Volunteer Battalion the Manchester Regiment, is granted the temporary rank of Lieutenant-Colonel whilst serving in South Africa. Major Samuel Cowell Philson is seconded for service on the staff. Lieutenant Graham is ordered from Aldershot to Lichfield for duty. Lieutenant Wood has arrived at Aldershot and has been posted to the Depôt. Lieutenant Davies is appointed to the medical charge of the 1st Infantry Brigade at Aldershot. Lieutenants A. D. Jameson and H. R. Bateman hold themselves in readiness to embark for service in Egypt. Lieutenant H. E. M. Douglas, V.C., D.S.O., on arrival from England, is posted to the Deesa District.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major J. J. A. V. C. Raye, who resigned his commission on Sept. 15th, 1897, is granted, in recognition of his service in the field, permission to retain his rank and wear the prescribed uniform.

VOLUNTEER CORPS.

Artillery: 1st Dorsetshire (Southern Division Royal Garrison Artillery): Surgeon-Lieutenant D. J. Lawson to be Surgeon-Captain. 1st Monmouthshire: Surgeon-Captain D. T. Richards resigns his commission. *Rifle:* 3rd Volunteer Battalion the Gloucestershire Regiment: Thomas Moravian Carter to be Surgeon-Lieutenant. 2nd Volunteer Battalion the East Lancaster Regiment: Charles William Crawshaw to be Surgeon-Lieutenant. 3rd Duke of Connaught's Own) Volunteer Battalion the Hampshire Regiment: Surgeon-Lieutenant H. M. Brownfield to be Surgeon-Captain. 1st Volunteer Battalion the Buffs (East Kent Regiment): Surgeon-Lieutenant E. A. C. Baylor resigns his commission. 1st (Pembrokshire) Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant-Colonel G. Griffiths retires, with permission to retain his rank and to wear the uniform of the battalion on retirement. 6th (Fifeshire) Volunteer Battalion the Black Watch (Royal Highlanders): Supernumerary Surgeon-Captain C. E. Douglas to be Surgeon-Captain on the Establishment. 2nd Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Surgeon-Lieutenant R. A. Fegan to be Surgeon-Captain.

VOLUNTEER MEDICAL STAFF CORPS.

The Glasgow Companies: Surgeon-Major G. T. Beatson to be Surgeon-Lieutenant-Colonel. The Manchester Companies: William Riddell Matthews to be Surgeon-Lieutenant; Charles Edward Preston to be Surgeon-Lieutenant.

VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force: *North-Eastern District: Rifle:* 2nd Volunteer Battalion the Lincolnshire Regiment: Surgeon-Lieutenant-Colonel George Frederick England. *North-Western District: Rifle:* 2nd Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant-Colonel George Westby; 2nd Volunteer Battalion the Loyal North Lancashire Regiment: Surgeon-Lieutenant-Colonel Edward Morton Garstang. *Scottish District: Artillery:* 1st Edinburgh (City) Volunteer Artillery: Surgeon-Major George Ritchie Gilruth. *Rifle:* 2nd Volunteer Battalion the Gordon Highlanders: Surgeon-Major Walter Smith Cheyne. *Southern District: Rifle:* 3rd (Duke of Connaught's Own) Volunteer Battalion the Hampshire Regiment: Surgeon-Captain Charles Sage Ticehurst.

MENTIONED IN DESPATCHES.

In a despatch from Lord Kitchener, G.C.B., &c., Commander-in-Chief, South Africa, to the Secretary of State for War, dated Army Headquarters, Pretoria, March 8th, 1901, the following officers are mentioned for valuable services rendered:—Major F. Daly, R.A.M.C.; Lieutenant O. Challis, R.A.M.C.; Civil Surgeon G. Mowatt, attached R.A.M.C.; Civil Surgeon V. Robinson, attached R.A.M.C.; Civil Surgeon Ellis, attached R.A.M.C.; Civil Surgeon Caldwell,

attached R.A.M.C.; Civil Surgeon Simpson, attached R.A.M.C.; Captain T. A. Green, New South Wales Medical Corps; and Surgeon-Captain S. C. Godfray, New Zealand Mounted Rifles.

Although he is not a member of the medical profession we are pleased to note that Sir Savile B. Crossley, whose benevolence and connexion with the Prince of Wales's Hospital Fund and the Metropolitan Hospital Sunday Fund are well known, is mentioned in Lord Kitchener's despatches.

AFFAIRS IN SOUTH AFRICA.

There is little or nothing of a decisive character to chronicle in the way of war news from South Africa. The losses in stores, ammunition, cattle, and vehicles on the part of the Boers have become chronic, but the enemy continue their elusive tactics and the battle which we were told was imminent with Delarey's force in the western Transvaal never came off. It seems only necessary for an announcement of this sort to appear in the papers for it not to happen. Nor should this be any matter for surprise, for the only practicable policy for the Boers to pursue at the present time is to abandon a position when pressed and to split up into small bodies and to scatter their forces. They are only likely to attack when in greatly superior numbers and to confine their attention mainly to raids on railways. Apart from the difficulty entailed by the vast extent of territory which has to be defended by the British, the Boers still seem to have little or no difficulty in obtaining information as to our intended movements. If we may judge from what we hear from correspondents in South Africa the belief is that this will continue so long as so many means of communication with the Boers remain open. The experiment of establishing a field force canteen, initiated under the management of Colonel Morgan, Director of Supplies, for supplying the troops with extra necessaries at cheap rates, has proved very successful. The system is being widely extended and is likely to prove a great boon to the troops. The plague continues to make progress in South Africa. The total number of cases since the outbreak of the disease is 572, of which 250 have terminated fatally. The debarkation of troops will probably have to be transferred from Cape Town to other uninfected ports, and as a preventive measure, Green Point, the principal camp near Cape Town, will probably have to be removed to another site. The large stock of commissariat stores and grain accumulated there attracts, of course, large numbers of rats which it is necessary to exterminate. Enteric fever is still prevalent, although to nothing like the extent that it was, and cases of dysentery are of frequent occurrence, but, taken as a whole, the British troops are healthy, though heartily sick of following a foe who never stands but always runs on their approach and takes every opportunity of "sniping" from safe and concealed cover. The following is the last published official return of our losses:—

—	Officers.	Non-commissioned officers and men.
Total reduction of the military forces through war in South Africa:—		
Deaths in South Africa	714	14,264
Missing and prisoners	7	774
Invalids sent home who have died	4	314
Invalids sent home who have left the service as unfit	—	2,493
	725	17,845
Total	18,570	

SOUTH AFRICAN WAR NOTES.

Civil Surgeon D. Massey-Burnside is reported dangerously ill with enteric fever (Harrismith, May 5th).

The following officers are returning home:—Major R. E. Kelly, R.A.M.C., Captain P. Evans, R.A.M.C., and Civil Surgeons Fry, L. H. Stephens, R. M. Geach, Charnley Smith, J. S. Warrack, and C. A. Peters.

Lieutenant W. H. Odlum, R.A.M.C., is reported slightly wounded doing duty with General Rundle's force April 24th.

THE LATE HONOURS GAZETTE.

The *Broad Arrow* of May 4th, 1901, says: "The officers of the R.A.M.C. are generally of opinion that a slight has been cast on the head of their department owing to the name of the Director-General having been omitted from the recent Honours' List. The Quartermaster-General and the Director-General of the Ordnance have been granted rewards for their services in connexion with the war, but the head of the Medical Department of the Army, whose duties have been most onerous, has received no recognition of his labours. The present Director-General has been a C.B. for several years, so that at least a K.C.B. might have been conferred upon him, considering that this honour has been held by every former Director-General of the Army Medical Department. It is therefore not surprising to find that the officers of the R.A.M.C. regard the omission in question as a pointed want of appreciation of good work. The Director-General was in no way responsible for any shortcomings of the medical arrangements in South Africa, and it is pretty certain that if the late Secretary of State for War had acted at first on the advice tendered by the Director-General on departmental matters much of the confusion and inability to cope with the enormous difficulties which have since beset his department in the present campaign would have been avoided." Another reference to this matter will be found on page 1350.

MEMORIAL TO THE LATE MAJOR HILLIARD.

A granite memorial column, designed by Mr. A. Y. Nutt, architect, has been dispatched by Messrs. Fountain and Co., Eton, to Durban, to be fixed at Newcastle, South Africa, in memory of Major George Hilliard, R.A.M.C. The inscription on a brass plate runs as follows: "Sacred to the memory of Major George Hilliard, R.A.M.C., who died at Newcastle, September 7th, 1900, from wounds received in a reconnaisance near Ingogo on the 5th.

Soldier of Christ, well done;
Praise be thy new employ,
And while eternal ages run
Rest in thy Saviour's joy.

Erected in grateful remembrance of the devoted care he rendered her husband by Beatrice, Princess Henry of Battenberg."

The *London Gazette* of May 7th contains the following:—"*Errata.*—The name of the officer brought to notice for his services in South Africa is Major Roger Kirkpatrick, Royal Army Medical Corps, No. 4 Stationary Hospital, and not as stated in the *Gazette* of Feb. 8th, 1901 (page 948), and April 16th, 1901 (page 2618).—The description of the undermentioned officer brought to notice for his services in South Africa in the *Gazette* of April 16th, 1901, and appointed Companion of the Distinguished Service Order in the *Gazette* of April 19th, 1901, is as now stated:—Surgeon-Major W. *T.* F. Davies, Imperial Light Horse (page 2610, April 16th, 1901, and page 2702, April 19th, 1901)."

A correspondent of the *Times* calls attention to the fact that while others have been sent home R.A.M.C. Volunteers, after more than a year's service, are being detained in South Africa, in many cases (for instance, where they are medical students) with much detriment to their future. No doubt the official reply would be: "They volunteered till the war was over"; but, surely, the correspondent continues, the authorities cannot wish to make volunteering unpopular among a class of men who offered valuable services freely.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the President, Vice-President, and Council held on May 7th the following examiners were elected:—Anatomy, A. Birmingham and A. Fraser; Surgery, H. Gray Croly and R. F. Tobin; Biology, J. J. Burgess; Ophthalmology, A. H. Benson and W. Story; Pathology and Bacteriology, A. H. White; Pathology, G. B. White; Midwifery and Gynæcology, F. W. Kidd; Sanitary Law and Vital Statistics, H. B. Goulding; Engineering and Architecture, J. C. Wilmot; Dental Surgery and Pathology, D. Corbett and W. Story; Mechanical Dentistry, G. M. P. Murray and W. Booth Pearsall; Chemistry and Physics, E. Lapper and J. R. Montgomery; Languages, L. J. Woodroffe; and Mathematics, Physics, Dictation, and English Essay, J. W. Tristram.

Correspondence.

"Audi alteram partem."

"RE-ORGANISATION OF THE ARMY MEDICAL SERVICE."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 27th, p. 1224, you have given us your proposals on the above subject in sequence to your summaries on the South Africa Commission, and as one having a profound belief in the potency of the medical and sanitary sciences to secure the physical efficiency of the military force during peace and war, and retaining a strong interest in the Army Medical Service despite retirement for some five years after 35 years spent in it, I would like to offer a few remarks on this important topic.

Now the South Africa Commission in their recommendations, very rightly in my opinion, express no desire to alter in any way the existing framework of the Royal Army Medical Corps; they favour no change in the system which now places under it the charge of the health of the army and the care of the sick and wounded; they recognise the necessity of its officers being at the head of each administrative and executive sphere; and so far as *matériel* is concerned they limit their suggestions to an increase of the amount of it and an improvement in the ambulance and the hospital marquee. The modifications they do suggest concern mainly the *personnel*—the development of a professional staff well fitted by ability and numbers when supplemented by an efficient nursing staff of female nurses and trained orderlies and a sufficiency of material means to reasonably safeguard the well-being of the army in peace and insure as full care of the sick and wounded in war as military exigencies may permit; and they propose to effect this end by an expansion of the present *personnel* and the formation of an efficient reserve, by attracting into the corps medical men of good professional attainments, by retaining them at a high level through furnished opportunities to inform themselves on all scientific advances and by selecting men for the higher posts for professional merit rather than by seniority, and by the employment of officers of the Royal Army Medical Corps in army sanitary work in peace and war. Such, tersely put, are the lines drawn out in the proposed reorganisation, and I infer from your remarks preceding your respective recommendations under definite headings that you are in accord with the Commission on these principles and that the 19 proposals you bring forward are to be regarded not as supplanting but as supplementary to them, embracing topics not touched upon by the Commission as a rule; and I think that no one with practical knowledge of army work and its requirements will fail to see the importance of the suggestions you make. That the departmental or other official committee suggested by the Commission for the drawing up of the necessary details to give a working expression to their opinions will have plenty of material to operate upon is apparent, and as it seems to me the duty of all to help on this important future work with the view of making the scheme as hopeful as possible I would like to make a few comments on some of your suggestions.

In respect to "the status of the Director-General" I would suggest, in addition to your proposals under this heading, the desirability of emancipating him and the department from their present complete subordination to the Horse Guards section of the War Office, and the necessity of this official being always drawn from the corps and selected solely on administrative and professional grounds; and in him and an improved "headquarters bureau" should be vested the power and responsibility of selection throughout the corps and of all advancements of officers to higher posts, be the grounds and occasion what they may.

In respect to your proposals touching the Army Medical School and its transfer to London it is desirable to bear in mind that at present it and the Netley Hospital are closely associated and that the former is vastly enhanced in value by the latter. When the school was formed the subjects taught in it were not elsewhere taught—a feature no longer pertaining to it—and its present value *per se* is probably to be found in its moulding the knowledge obtained in the civil schools to the requirements of the military sphere and teaching the professional care of the wounded during war. Through its association with the hospital the student can obtain a practical knowledge of army diseases, their morbid anatomy, and war injuries not elsewhere obtainable, as well as a practical initiation into the routine of military hospital duties. To remove the school alone to London would deprive it of this most valuable adjunct. If both school and hospital could be transferred to a site sufficiently near London to allow of full action of the military and civil professional elements, the one or the other, gain would unquestionably result. Hence the view I take, after several years of work in the school, is that to the medical candidate loss, not gain, would result by its transfer alone to London; while as regards the medical officer returning from foreign service he is far more likely to find his wants better supplied in civil hospitals and schools than in a course of instruction as at present given at the Netley School or in the practice of its hospital. That the school might be overhauled with advantage may be advanced without aspersion on its present staff, and that gain would result by re-transfer to Netley, or wherever the school and hospital might be located, of the Aldershot establishment for orderly and military instruction—bereft of it to the well-recognised disadvantage when effected many years ago—will probably be agreed to by those having had former experience of the good results of the combination.

With regard to the proposed abolition of the entrance examination, if I mistake not its original purpose was two-fold—to allow of the placement of men in accord with the results of competition and to obtain by a higher qualifying test than that in force in civil life a class of men, for what was then considered the highly important sphere of medical military work, above the ordinary professional average. For many, many years past competition has disappeared—a regretted relic of the early sixties and Mr. Sidney Herbert's noble work—and the difficulty has been to get men in any way, and the present examination test—that of the London Conjoint at least, though whether all other boards conform to this standard may be questioned—is a sufficient guarantee of ability for military medical duty, hence there are strong *prima-facie* grounds for its abolition, especially when the present system of nomination to appointments is borne in mind. Yet some means of grading the candidates is necessary, and if the subjects taught in the Netley School are to be taken for the purpose, in what way is the quality of those who have held hospital posts and possess degrees and high diplomas to obtain proper recognition? Under such a plan those better men who have probably given an extra year or two in obtaining this extra quality may find themselves placed not before but on an equality with, or even below, men younger than themselves—no small disadvantage with the present time limits to promotion to the higher posts and retirement on good and full pension. And with respect to the proposed substitution of an examination within the first 10 years of service with its two grades of pass and honours if the end of the honour attainment is to rest with the "asterisk or some distinguishing letters" after the name in the Army List (more than probable unless the whole system of promotion be changed) the advantage to the individual so distinguishing himself is not discernible. If I may express an opinion it is to the effect that some test (for instance, an examination not necessarily identical with that already passed for qualification but embracing subjects specially selected for the purpose) at entrance is necessary for *all* applicants for army employ to give fair play to those eminently desirable individuals possessing degrees or having had practical experience in hospital posts or otherwise, and that the examination after entrance—say at eight or ten years—should be in character both qualifying and competitive, the officers so placed under the latter phase to advance to the next grade in advance of the merely qualifying men, thus bringing in the stimulus of personal professional improvement at an early period in the career of the individual as well as, as suggested, at the later period when he is reaching the administrative grade.

With these comments on those of your valuable proposals which seem open to criticism, will you allow me, Sirs, to express my regret at not finding greater stress laid by you on the necessity of making professional ability, merit, and work one chief ground for promotion in the corps of the future in order to engender that healthy stimulus to scientific advance which alone can insure a thoroughly efficient body of officers for the important medico-chirurgical hygienic army work?

True, you express the opinion that there should "be far more rewards held out for professional merit," yet as you previously remark that "there are no means, or very few, of rewarding medical officers for professional distinction or scientific work in the service," a hopeless *impasse* is brought about unless the way be opened up by advance from one grade to another. You mention that "promotion by selection has been apparently attended with so many difficulties that it has never been strictly adhered to," but is it not more in accord with fact to say that in spite of the Royal warrant after the Crimean inquiry it has never yet been put in practice, if ever suggested, by the powers that be, Commander-in-Chief or Director-General? There has been no difficulty in advancing men on various grounds other than professional with the dangerous result (probably explanatory of some of the asserted shortcomings) of showing the corps that so far as advancement was concerned the very *raison d'être* of its existence was the one point which could be safely ignored. It is sincerely to be hoped that this great motive force for progress in all avocations in life will receive full recognition in the proposed re-organisation, for without it where is the attraction for the "talented alumni of our schools and colleges," what avails the most perfect material fabric? It was recognised as necessary in 1858, why is it less necessary in 1901? The hopes then held out brought full competition into play and an excellent class of men into the service in 1860–61 and thereabouts; these hopes were never realised, and we know the degraded condition into which the department passed from this and other reasons; and are these sad experiences to be ignored in the future?

Well, Sirs, we all look for a good issue to this South African inquiry, but it may be safely said that unless the corps be freed from the trammels of so many of the War Office sections now potent to mar it, and allowed to advance and develop itself on its own self-knowledge and on business principles, no scheme, however otherwise complete, will avail to give the nation what is required in order to prevent a repetition of the past disasters.

I am, Sirs, yours faithfully,

FRANCIS H. WELCH, F.R.C.S. Eng.,
Surgeon-Colonel (retired) Medical Staff.

Brandram-road, Lee, S.E., May 4th, 1901.

To the Editors of THE LANCET.

SIRS,—You were good enough to publish in THE LANCET of May 4th, p. 1300, a letter of mine suggesting the formation of an army medical school for the purpose of training students for the Army Medical Corps. I purpose this week to trespass again on your space in order to give my scheme in more detail.

1. Entrance to the school should be by competitive examination in arts. The examination should be held at the same time as the examination for Sandhurst and the papers should be the same. Age-limits should be 16 to 18 years.

2. The course at the school should be of five years' duration, and the examinations for which the student should be prepared the M.R.C.S., L.R.C.P. Lond. The order of passing out should be determined by success at the college examinations.

3. I would make the school somewhat on the lines of Cooper's Hill—i.e., I would offer a limited number, according to vacancies, of appointments in the navy, army, Indian, and colonial services to candidates who had done best at their first two examinations.

4. Students at the college should be under military discipline the whole time. For the army and navy candidate discipline is essential, and the others will be no worse for it.

5. During part of the vacation the army and Indian candidate should be sent to Aldershot to learn riding and bearer-company work.

6. Where should this school be? It must, of course, be at a great medical centre and I think it resolves itself practically into the choice of four centres—London, Edinburgh, Cambridge, or Dublin. Dublin is not desirable, being the wrong side of St. George's Channel. Cambridge, though probably most pleasant, cannot give the clinical experience necessary. It resolves itself, I think, into a choice between Edinburgh and London. Edinburgh offers many advantages, such as the great facilities for teaching, the ease with which a wing of the hospital could be reserved for candidates from the army school, the healthy situation, and its great opportunities for sport of all kinds. London, on the other hand, has one great advantage—viz., its proximity to Aldershot. If London be chosen I would suggest that the school be attached to the West London or some other hospital where students are not at present working.

7. Numbers. About 30 commissions are required a year for the navy, 30 for the Royal Army Medical Corps, 30 for the Indian Medical Service, and say 10 for colonial appointments. Total for the year, 100. Grand total for five years 500. Allow an extra 100 or so, and you have a school of 600 men, which is quite sufficient for working purposes.

8. Expense. I would make ordinary candidates pay £120 a year—sons of officers to be given a reduction—as at Sandhurst or Woolwich. All necessary examination fees to be paid by Government.

9. Failure at examinations to be satisfactorily explained, with the alternative of dismissal.

10. The head of the school to be a surgeon-general, assisted for purposes of discipline by officers of the Royal Army Medical Corps. The teaching staff to be well-paid civilians.

11. On "qualifying" commissions should be granted and the most deserving officers should be given "house appointments."

12. Officers should then be given a short course of military hygiene, medicine, and surgery as at present, but this course should be transferred from Netley to the Army Medical School.

These suggestions are, of course, open to many objections, but I feel certain that if the State wants army medical officers of the right stamp they must take the trouble to train them up carefully from the first, as they train the "sapper" and "gunner."—I am, Sirs, yours faithfully,

May 6th, 1901. R.A.M.C.

"THE ACTION OF ARSENIC AS OBSERVED DURING THE RECENT EPIDEMIC OF ARSENIC POISONING."

To the Editors of THE LANCET.

SIRS,—I am moved to write to you by an allusion to me in Sir T. Lauder Brunton's article in THE LANCET of May 4th, p. 1259. Not that I have anything to complain of (unless of one rather too unqualified statement attributed to me), but only that if the facts are (as they appear to Sir Lauder Brunton to be) "remarkable" or interesting in any degree in connexion with a subject which has been investigated by a Royal Commission, it is well that they should be on record in your columns exactly as I stated them to Sir Lauder Brunton and others near the commencement of the "arsenic scare." At the time in question (about 16 years ago, I think) the late Dr. James Ross had been much occupied with what he and others then called "alcoholic paralysis," and in a general way I had been struck with the paucity of instances of this disease (assuming it to be a separate disease and rightly so named) in Glasgow. Being well aware, however, how easy it is to overlook a disease which is unfamiliar, I asked Dr. Ross to be so kind as to demonstrate to me several cases, of which I think he said that he had about half a dozen in his wards at the time. I was much impressed with the novelty, to me, of the whole *symptomen-complex* and told Dr. Ross so, adding that if this form of paralysis was really "alcoholic" I should have expected it to be quite as common and as well defined in Glasgow as in Manchester. The latent conviction then in my mind was that there was some other toxic agent rather than the alcohol, though associated therewith, that underlay the etiology of the affection. Further observation for several years only confirmed me in this view, though I never committed myself to such an unqualified statement as that the disease "did not exist in Glasgow." Indeed, both in hospital and in private practice I saw a sufficient number of cases to assure me that my diagnosis previously had not been at fault, but at the same time to confirm generally the view that alcohol could not be the sole, or even the most essential, cause of the disease. The rapidly extending literature of peripheral neuritis and the comprehensive and valuable posthumous work of Dr. Ross (in conjunction with Dr. Judson Bury) were most carefully studied by me and became the basis of my clinical teaching on this subject, but still without any clear light occurring as to what the detrimental substance was until the "arsenic scare" arose, when I felt it to be my duty to tell in various quarters my previous experience as a contribution to the history of the subject.

I am, Sirs, yours faithfully,

Edinburgh, May 6th, 1901. W. T. GAIRDNER.

"LEGISLATION AGAINST NATIONAL INTEMPERANCE."

To the Editors of THE LANCET.

SIRS,—Dr. T. S. Clouston[1] is perfectly right in denouncing my comparison of the craving for alcohol to an instinct (an inborn trait). I made it in my first publication, but soon becoming conscious of my error, substituted for it a truer definition in subsequent publications with some of which Dr. Clouston is acquainted.[2] No critic had then commented on it, and Dr. Clouston is the first to do so. This by the way. Meanwhile, I do not know that any good can come of the present controversy unless we keep to the main points at issue. We deal with a very grave matter, and are not, I hope, mere dialecticians.

I stated originally that, on biological grounds, temperance reform was impossible, and could lead ultimately only to increased drunkenness. I propounded an alternative remedy. My opponents declared it impracticable. "Very well," I replied, "what, then, is your remedy? Temperance reform! But temperance reform has been tried for thousands of years, and has almost invariably failed. It has been tried lately on a very large scale in the modern civilised world: will you mention a single instance in which it has succeeded under conditions half as onerous as the least onerous that exist anywhere in England? I personally am prepared to prove that all such attempts have resulted in increased drunkenness as well as in many other attendant evils." In effect my opponents reply: "We cannot tell you of such a case. But that is not the point. We are able to tell you of something entirely different—of instances in which temperance reform has done some good under conditions remotely unlike those which prevail in England, under conditions which are rapidly disappearing from the civilised world, and under which not one civilised man in a thousand now lives. Moreover, you are a pernicious person; your opinions are very dangerous. We implore you not to put a spoke in the wheels of temperance reform. Let the reformer continue his beneficent work. We are astonished at your lack of humour and at your persistence."

I do not exaggerate in the least. It all seems to me very Gilbertian; but I daresay that that is owing to my Scottish lack of humour. I confess I am somewhat bewildered. If I am wrong, it is so very easy to prove me wrong. An immense mass of data is to the hand of every student. If I am right, the temperance reformer is—well, not precisely a beneficent person. He does not reform and prohibition does not prohibit.

"How drunkenness has greatly increased in Norway of late years on a greatly diminished quantity of alcohol" passes Dr. Clouston's comprehension. I have already explained that it is through the extinction of the moderate drinker. The moderate drinker is easily deterred by prohibition; the drunkard will go through fire and water to obtain the satisfaction of his desires. I am sorry to contradict an opponent so courteous, but as a fact he is in error. Messrs. Rowntree and Sherwell state in the plainest terms that both drunkenness and the *per capita* consumption of alcohol have increased during recent years in Norway.[3]

Dr. Clouston complains that police returns are very fallacious. He is quite right. Here is an example. It shows how police returns are affected by prohibition—by "temperance reform." In Portland the arrests for drunkenness have increased from 16 per 1000 for the years 1852–1856 to 42 per 1000 for the years 1898–1899. The late General Neal Dow, the great protagonist of reform, speaking in Portland in 1893, said: "When I was mayor (in 1851) every man who indicated that he was drunk was arrested, but now they do not do that unless the man is noisy and disturbing the peace."

The following is an example of how prohibition works. I take it from the *Westminster Gazette* of May 19th, 1898. I am ready to quote any number of similar instances. "The Clutha prohibition is not the only one we have had in New Zealand. A local option law existed in this colony many years ago. Under its provisions it was open to the people in any district to vote 'no licence.' In the North Seventy Mile Bush, in the Hawkes Bay province, in a township called Ormondville, a man who had drunk himself mad went home one day and murdered his wife and four or five children. Naturally a thrill of horror passed through the district, and when the next local option poll was taken the people voted solidly and solemnly for 'no licence.' The public-houses in Makotutu, Ormondville, and Norsewood were closed for three years. Did drinking and drunkenness cease? No. The drinking customs of the people underwent a change for the worse; sly grog-selling became rampant, and more liquor was ordered for consumption in that district than ever before or since. In private houses bottles were kept from which anyone might help himself, so long as he deposited the requisite sixpence per nip on the mantelshelf. In more than one instance this led to the women of the household cultivating a taste for liquor. Secret rooms were fitted up as bars where every kind of liquor was dispensed, and in some of these shocking scenes were witnessed. Meantime the business of the township suffered, as travellers were compelled to pass on to neighbouring towns to obtain accommodation. Visitors who had been in the habit of spending a few weeks in the bush for health's sake were prevented, for the same reason, from sojourning in the district. Drunkenness and debauchery increased, and so soon as the prescribed period of prohibition had passed the people voted to reopen the hotels."

It is scarcely necessary to reply at length to Dr. Gordon Sharp.[4] It seems that he has "done Dr. Archdall Reid the justice of reading most of, if not all, his letters and papers on this alcohol and heredity question," but he says, "I am afraid I have not yet grasped his meaning." All the points raised by him have already been dealt with in the publications he alludes to, and by this person and that my meaning appears to have been grasped clearly enough. I greatly regret that I am unable to make myself comprehensible to Dr. Sharp. The fault is mine. But Dr. Sharp betrays an intimate knowledge of a subject of which I am an eager student. He says: "All peoples have known alcohol in some form or other from their earliest antiquity." I have collected information on this point of most of the races of the world, but I am yet ignorant of the alcoholic history of a good many races—for example, the Terra del Fuegians, the Patagonians, the Australasian natives, and the Esquimaux. I am ignorant even of the sources whence they could have drawn their supplies of alcohol. Will Dr. Sharp kindly inform me? I want precise details—references to this or that authority.

I am, Sirs, yours faithfully,

Southsea, April 28th, 1901. G. ARCHDALL REID.

To the Editors of THE LANCET.

SIRS,—Before this question passes away from the region of discussion, and in order that Dr. Archdall Reid's views be not left in possession of the field, I beg to draw attention to an important fact which bears on the practical side of the matter. Weismannism, with its allied doctrines, is far from being generally accepted by biologists, and Weismannism, as an articulated system of theories, stands or falls with the proof or disproof of the inheritance of acquired characters. Many educated persons feel as much interest in that doctrine and as much respect for it as Dr. Johnson for a certain question in metaphysics which he dealt with by kicking a stone lying at his feet. But the question of the *possibility*, not the frequent occurrence, of the transmission of acquired characters is vital to Dr. Archdall Reid's position as to alcoholism. Surely, when first-rate biologists can write as Professor J. Arthur Thomson[5] and Professor W. K. Brooks[6] on the need for further facts as to use-inheritance, it behoves those who deal with such profoundly important questions as that of national intemperance to walk warily and to speak humbly. For this reason Dr. Clouston's last and dignified rejoinder to his opponents is most valuable. "Not proven" must be the verdict in this year of grace 1901 as to their much-disputed biological doctrine. It may be remembered by your readers how very far Professor Berry Haycraft went in his Milroy Lectures for 1894 on Darwinism and Race Progress in the direction taken by Dr. Archdall Reid and his friends. He there boldly proclaimed tubercle, leprosy, zymotic diseases, and alcoholism as friends of the human race by virtue of their selective influence, though he refrained from that fatal love for strict orthodoxy which so generally characterises partisans, and maintained that syphilis, by virtue of its being

[1] THE LANCET, April 27th, 1901, p. 1233.
[2] E.g., the article in THE LANCET, Oct. 14th, 1899, p. 1006, and the address in the *British Medical Journal* of Sept. 16th, 1899.
[3] Op. cit., pp. 495–498.
[4] THE LANCET, April 27th, 1901, p. 1233.
[5] The Study of Animal Life, 1899, p. 336.
[6] The Foundations of Zoology, 1899, p. 73.

a case of inherited "acquired characters," was an exception to the other friends of the human race, and, indeed, was an enemy. But he made a remark of extreme importance to such a painfully pressing matter as that before us, with which I will conclude. He says: "It is evident that in applying in practical matters the lessons that the biologists may teach us we must be certain that we are dealing with truths that will remain truths for this and for many generations."[1]

I am, Sirs, yours faithfully,

Blackheath, May 6th, 1901. WALTER KIDD.

THE DEATHS FROM (?) BOXING.

To the Editors of THE LANCET.

SIRS,—Surely the faculty ought to be able to help in throwing some sort of light on what appears to be a ghastly mystery in the matter of these last three deaths after boxing under apparently the safest of conditions—conditions non-existent in other clubs where great numbers of severe contests take place. The mystery has hitherto been treated as a *surgical* affair, but I cannot help thinking there is a *medical* aspect to it which may be worth while considering, especially as the mystery remains unsolved by the surgico-pathological theory. Admitting that intracranial hæmorrhage from a blow without fracture is "on the cards," I contend that, considering the millions of knocks, blows, and punches on the head which occur, it is most rare. In all these cases the boxing has been of such a high-class nature that no really violent blow was received on either side. In the first case, that of Turner, post-mortem examination revealed no lesion whatever—the only peculiarity that could be spoken of was that the heart was smaller than the average. Yet he had won an open competition, meeting the picked men in England, only a week or two before. He was to be married the week after the contest at the National Sporting Club and alone supported a widowed mother. What could be have died from but nerve collapse due to over-excitement and anxiety? Yet public opinion put it down very naturally to boxing, pure and simple—killed by it. In the cases of Riley and Smith the necropsy showed intercranial hæmorrhage with no external marks of violence, much less fracture. Now I put it in this way: if this "case" last week had been brought into the hospital, not as one from the National Sporting Club, but one found insensible, sitting on a doorstep, of course the strictest search would be made for signs of outward violence; finding none, post-mortem examination shows intercranial hæmorrhage. How would death be certified—from "violence" or from "natural causes"?

Apoplexy may be uncommon in the young and apparently healthy, but I contend that nerve tension would be much more likely to cause it than any outward violence, though the surgical evidence was that the hæmorrhage *could not* have arisen without external concussion. I have witnessed practically every round of the amateur boxing championships for the last 21 years, where infinitely more severe punishment is given and taken than in these three cases. St. James's Hall is packed from floor to ceiling, any amount of shouting and chaff being indulged in by the spectators, the din being terrific at times, yet never has anything serious happened to the boxers. Can it be that the very strict rule of "silence during the boxing" at the National Sporting Club has the effect of making the contest a much more intense mental strain to the competitor and conducing, therefore, towards nerve collapse and apoplexy? In all other clubs spectators are allowed to cheer or otherwise during the boxing, thereby letting off the steam of excitement for onlookers and competitors. The officials of the club must indeed be almost driven crazy at finding their well-intentioned efforts to provide for the safety of the boxers end in such lamentable failure, and to sportsmen who take an interest in boxing these deaths have been very pathetic and heart-breaking. One does not get "used" to these kind of sad endings to contests fought out, as they almost always are, with the best of good feeling and even generosity.

I am, Sirs, yours faithfully,

F. ORTON, M.D. Dub.

Crouch End, Hornsey, N., May 6th, 1901.

[1] THE LANCET, Feb. 17th, 1894, p. 383.

"THE MEDICAL PROFESSION AND THE FRIENDLY SOCIETIES."

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to the letter of "W. E. T." in THE LANCET of May 4th, p. 1301. Will you allow me to advise him and his neighbours not to undertake medical attendance under the terms and conditions offered by the National Friendly Society, if by this he means the National Deposit Friendly Society? The Medical Guild has twice discussed the claims of this society and has on both occasions declined to work on its terms.

I am, Sirs, yours faithfully,

Salford, May 7th, 1901. R. HANSON WOLSTENHOLME.

To the Editors of THE LANCET.

SIRS,—If the representatives of friendly societies and the General Medical Council will discuss their differences with the same spirit of fairness and anxiety for a definite settlement of the breach as is contained in Mr. Brabrook's letter, for which all medical men engaged in contract work will thank him, these constant disputes will soon be at an end. The wage-limit is a question upon which the friendly societies will never give in, and if the profession fight them on that question the result will be a further increase in the number of so-called "friendly societies medical institutions." The objects of these associations are laudable enough. It is often to be deplored that the friendly societies are under the impression that the medical profession attack the poor or working-classes who belong to these institutions; this is not so, the main cause for the dislike for these associations on the part of the profession is that they are largely composed of persons who can, and did formerly pay, a reasonable fee, and to fight against this we seem powerless. That the friendly societies do underpay their medical men can be proved over and over again. In Glasgow very recently a big lodge (A.O.F.) advertised for a medical man and offered 2*s.* 6*d.* per member per annum. He had to visit in a three-mile radius and find drugs, &c. A registered friendly society the members of which are nearly, if not all, employed at a Government dockyard offered 2*s.* 6*d.* per adult member and ½*d.* a week for each child and wife of the members. Again, at a recent conference of Friendly Societies several prominent members openly confessed that they underpaid their surgeons. In my own district I have to pay an assistant £150, indoors. My bill for drugs has considerably increased, the wages I pay have gone up—in short, my general expenses are much more than formerly. I have a colliery appointment and I put the question of a slight increase before the miners' committee and I met with refusal although I have been here since 1897, when the colliers got 25*s.*; in 1898, 27*s.* 6*d.*; in 1899, 29*s.* 4*d.*; in 1900, 33*s* 4*d.*; and in 1901, 34*s.* Wages have gone up generally, the working man's position has improved, and he can well afford to pay a fair sum for contract work. What is that sum?

I contend the majority of us would be satisfied with 4*s.* per annum for juveniles, 4*s.* per annum for adult male, and 5*s.* per annum for female, members. I have a club with 250 adult members who pay me 4*s.* per annum for each member, a sum I am satisfied to attend them for. They have established a juvenile club of 150 members, little boys and girls. They insist on my taking them at one halfpenny per member—6*s.* 3*d.* a week. This would mean about 4 per cent. on my list always. I pointed out that I would get nothing out of it, whereupon they threatened to withdraw the adult lodge or to join other societies in the establishment of an institution. It is in cases such as the one just cited where the friendly society members deal harshly with the doctor, in fact, any attempt on our part to combine with a view to remedy these grievances is looked upon by the trades union working man oddfellow as extremely aggressive. We only want what is fair and I hope Mr. Brabrook will use his influence with friendly societies towards that end.

I am, Sirs, yours faithfully,

May 6th, 1901. A COLLIERY SURGEON.

WATER IN BUTTER.—At the Bristol Police-court on April 30th a firm of butter manufacturers of Wellington, Somerset, were fined £21 for selling three samples of butter containing 28·3, 26·2, and 23·3 per cent. of water respectively.

GERMAN CONGRESS OF INTERNAL MEDICINE.

(FROM OUR BERLIN CORRESPONDENT.)

THE Congress of Internal Medicine met in Berlin on April 16th, Professor SENATOR being in the chair. In his inaugural address the chairman drew attention to the surprising improvements made in diagnosis during the century which had just closed. Not long ago a medical man could carry in his pocket all the instruments used for diagnosis, but at the present time even a Hercules would be overloaded with the bulky and complicated apparatus occasionally resorted to for diagnostic purposes. There was a time when diagnosis seemed to be the principal object of medical science and when a certain amount of "nihilismus" prevailed in therapeutics, but this was a thing of the past and diagnosis was now believed to be the essential preliminary of successful treatment. Professor Senator then mentioned some diseases the cure of which depended on an early and exact diagnosis by modern methods, including the use of the microscope, and closed his speech with the words, "Qui bene diagnoscit, bene curat." The first papers read before the congress were on subjects connected with the heart.

Cardiac Tonics.

Professor GOTTLIEB (Heidelberg) said that in disorders of the circulation the distribution of blood within the organism became altered and that by the use of cardiac tonics or vaso-motor stimulants the normal state might be restored. He described the distribution of blood in vaso-motor paresis where there was plethora of the abdominal circulation and anæmia of the peripheral circulation, the brain, and the skin. In this condition, which was due especially to poisoning or to acute infectious diseases, cardiac tonics were useless because the action of the heart was normal. Vaso-motor stimulants, however, acting on the splanchnic nerves might bring about an alteration in the distribution of the blood, compounds like strychnine, caffeine, and camphor being indicated, but not digitalis. Digitalis was useful when the action of the heart was feeble, for it increased the power of the heart, and Professor Gottlieb had found by experiment that under the influence of digitoxin the energy of a ventricle became three times stronger than before. An improvement of the pulse took place because the contractions of the heart-muscle became not only stronger but also less frequent, owing to the action of digitalis on the vagus nerve. Digitalis also produced a contraction of the blood-vessels. Camphor did not increase the force but only the irritability of the heart; its action was therefore only temporary; caffeine was useful when the blood-pressure in the aorta was high because it aided the heart to surmount such pathological resistances in the circulation. Alcohol also diminished the resistance because it dilated the blood-vessels.

Professor SAHLI (Berne) read a paper on the same subject. He said that a stagnation of the circulation might depend upon a variety of causes, and he distinguished four forms—viz.: (1) cardiac stagnation produced by an insufficient systole as well as by a mechanical hindering of the systole; (2) respiratory stagnation occurring in diseases of the respiration; (3) vaso-motor stagnation produced by a paresis of the vessels of the great circulation; and (4) splanchnic stagnation with plethora of the abdominal and anæmia of the peripheric circulation. In all these cases digitalis was useful, but not in the so-called essential stagnation—the condition which existed when in valvular endocarditis the defect of a valve had become so great that even in normal action of the heart stagnation was inevitable. The danger of digitalis was often exaggerated and if reasonably administered it might be given for a long time. Professor Sahli finally explained the action of caffeine and camphor which were both vaso-motor stimulants and were valuable by reason of their action on the respiration and their diuretic effect. As to the action of alcohol, he was of opinion that it did not produce a direct influence on the heart, but that it acted usefully by improving the circulation in shivering fits or when the reaction after a cold bath was insufficient. Professor Sahli finally explained how these compounds should be combined and administered.

Professor SCHOTT (Nauheim) was of opinion that practically there was no difference between cardiac tonics and vaso-motor stimulants. The principal requisite was to strengthen the heart.

Professor GOLDSCHEIDER (Berlin) said that the administration of digitalis ought never to be stopped at once, but smaller doses ought to be prescribed when the action of the drug was found to be too strong.

Professor MENDELSOHN (Berlin) reported some experiments on measuring the strength of the heart. The patient performed a certain amount of work in which the heart's action was increased and the interval after which it became normal again was noted.

Professor KRAUS (Graz) said that this experiment, to be valuable, must be repeated at certain intervals.

Professor BAELZ (Tokio) pointed out that the differences in individuals were very great; in Japanese messengers, for instance, who ran 100 kilometres (62 miles) a day without stopping, the pulse became of normal frequency almost at once after their work was done.

Artificial Hyperæmia as a Therapeutic Agent.

Dr. BIER, Professor of Surgery at Greifswald, on the invitation of the committee, read a paper on this subject. He said that he had used his method first in tuberculosis of the joints. It consisted in applying round the extremity above the affected joint a caoutchouc bandage which produced a constriction of the blood-vessels, stasis, and hyperæmia in the extremity. The bandage, if properly applied, might be tolerated for several hours at a time for many days. He had numerous favourable results in tuberculosis of the joints and accordingly had tried the method in rheumatic and gonorrhœal diseases of the joints. The venous stasis caused by the constriction was found to relieve the pains. By the researches of Dr. Noetzel it had been proved that artificial hyperæmia had a bactericidal action and that the formation of fibroid tissue, and therefore cicatrisation, was promoted. Dr. Bier's artificial hyperæmia, moreover, arrested the absorption of the exudation, and this was especially important in rheumatic arthritis where this method was used together with massage.

Etiology of Acute Rheumatic Arthritis.

Dr. SINGER (Vienna) reported that he had made a microscopical examination of six cases of rheumatic arthritis and two cases of chorea. In every instance staphylococci and streptococci were present in the joints and in other organs. He was of opinion that rheumatic polyarthritis was an abortive form of pyæmia but that it was not caused by a specific bacillus, as suggested by some authorities.

Dr. MEYER (Berlin) held an opposite opinion. In 12 cases of rheumatic sore-throat he had cultivated streptococci which when injected into animals produced exudations into the joints and serous membranes, endocarditis, and a condition very similar to acute rheumatic arthritis. The streptococci of rheumatic sore-throat had therefore a specific action.

Dr. MENZER (Berlin) said that he had succeeded in cultivating a streptococcus in endocarditis verrucosa which produced exudation into the joints and serous membranes when injected into the palate of rabbits. The streptococci found in rheumatic sore-throat were not so virulent.

(*To be continued.*)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Consultative Institute.

IN THE LANCET of April 20th, p. 1171, it is noted that the authors of the Consultative Institute had made a change in their programme by advertising for a consulting physician and a consulting surgeon at a salary of £500 a year each. This was in place of the one consultant who recently resigned. The holders of the office were to be debarred from private practice. Another change in the policy of the Institute has just been made in the form of a seductive inducement to outsiders. It is now proposed to increase the number of the consultants to five and to give them each a sum of £200 a year with permission to engage in private practice also. An advertisement has appeared several times in the local papers for consultants and specialists for the posts of physician, surgeon, oculist, aurist, and gynæcologist. The remuneration offered is the fees of the patients less the working expenses, a minimum of £200 a year

being guaranteed. A meeting of the Birmingham consultants and specialists was held at the Medical Institute on May 2nd, when the situation as indicated by the recent changes was considered. The general tone of the meeting was antagonistic to the Consultative Institute *in toto* on the present lines. The often-repeated objection to the ordinary consultants' fees was again made clear by the fact stated that the majority of consultants in the town are quite willing to see exceptional cases for a half-guinea fee. It was pointed out that the new Institute had no wage-limit or method of inquiry which would restrict its operations to the class for whom it was intended; also, that there was no representation of the profession upon its management, it being notorious that the present promoters had expressed themselves in terms most hostile to the interests of the profession. It is stated, on the other hand, that efforts are being made to draw the friendly societies of the town under the control of the Institute and so to influence the position of the general practitioners attached to them. However the medical attendant of one of these organisations may wish to make his choice of a consultant his recommendations will be of no avail if the society or club is affiliated to the new Consultative Institute. The present attitude of the profession is one of no surrender. It must be borne in mind that they have to deal with a determined opposition which shows little signs of compromise or conciliation.

A Crematorium.

The first annual meeting of the promoters of a crematorium for Birmingham was held on April 22nd. The report dealt mainly with the difficulties of finding a suitable site. Four months' search in many directions with various difficulties and objections resulted in obtaining a grant from General Calthorpe of an acre of land conveniently situated near the town at Perry Barr. Here it is proposed to erect the necessary buildings. The balance-sheet showed that 1239 shares of £5 each had been taken up and a donation of £500 had been received. There is every prospect of the project being carried through.

The Lying in Charity.

The fifty-eighth annual meeting of this charity was held on April 23rd. It was shown that much valuable work is done in an unostentatious way by the midwives and medical men connected with it. Thus the number of cases attended during the year was 873, the services of the honorary medical officers being called for in 46 cases. The report of the medical committee emphasised the necessity of providing beds for difficult and operative cases, also of a provision for teaching and training nurses in this department. Some discussion took place, opinions being divided among the lay members as to the wisdom of making any changes from the present outdoor system of attendance. Serious reflection suggests the desirability of acting on the lines laid down by the medical committee which would be much to the public advantage. It is to be hoped that time will allow of these suggestions taking a practical and tangible form.

May 7th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Royal Infirmary: Retirement of Mr. James Hardie.

AT the meeting of the Board of Management of the Manchester Royal Infirmary held on April 29th, Mr. Hardie, having arrived at the "fixed period"—i.e., the age-limit of 60 years—sent in his resignation as honorary surgeon. The chairman, Sir F. Forbes Adam, said that it was a source of regret to the board when under the rules of the institution a good man ceased to be actively connected with them. He moved:—

That, in accepting with much regret Mr. Hardie's resignation the board desired to place on record their high sense of the valuable services rendered by him during the past 25 years, and of the skill, ability, and kindly consideration he had at all times shown in the treatment of the patients, and that the board had much pleasure in appointing Mr. Hardie as honorary consulting surgeon of the institution from the date of his retirement.

This was seconded by Mr. E. S. Heywood, the late chairman, and was passed unanimously.

Hospital Saturday.

Saturday, May 4th, was Hospital Saturday, and an urgent appeal was issued for liberal contributions. For the last two or three years the claims made by the Indian famine and the war have reduced the collections. It is too soon to know the amount received this year, but last year the total of the Saturday and Sunday collections was £7233 14*s.* 4*d.* This is a small sum compared with the £25,000 collected at Birmingham. "The cases of illness treated in the voluntary and workhouse hospitals of Manchester and Salford in 1899 numbered 56·5 per cent. of the population and the deaths 2·3 per cent." If this means that considerably more than half of the people in Manchester and Salford have during the year received hospital treatment there is no wonder that the expenditure of the hospitals exceeds their income or that medical practitioners have begun to feel that charitable medical help is given with too lavish a hand. There is some danger in these philanthropic days of large sections of the people losing all idea of self-help and retaining but little of their self-respect.

£40,000 for Middle-class Baths.

The Baths Committee of the Manchester Corporation recommended at the council meeting held on May 1st that baths should be erected in High-street, Chorlton-on-Medlock, at a cost of £40,000, which is exclusive of the purchase of the site. The chairman of the committee said that they would serve three wards with a population of 72,000 and a rateable value of £330,000. The buildings are to be "palatial in character and extent," and "of a character unknown before." What this foreshadows it is not easy to divine, but presumably a good deal of money will be spent on decorations which will probably be vulgar and tawdry unless the promise is kept that they shall be "of a character unknown before." The *Manchester City News* objects to so much money being spent on these baths. The neighbourhood in which they are to be placed is in the main one of good houses and well-to-do people. It says: "No second-class baths will be required, because only first-class people will go. Washing-baths will not be wanted, because all the houses in the neighbourhood contain baths of their own. First-class Turkish and ladies' and gentlemen's swimming baths are to be provided. ..... The money would suffice to place six baths in as many poor and congested districts that urgently need them." This is quite true. There are already private and good Turkish and other baths easily accessible, and there seems no reason why there should be municipal competition. The really poor of the district will be much too shy and too dirty to enter these "palatial" baths. It has long been evident that as regards baths a large proportion of the members of the council, either from want of interest or want of thought, neglect the needs of the poor who want facilities for cleanliness for themselves and their children and are dazzled by the idea that they will have given their help towards the erection of a building "worthy of the city" and "of a character unknown before." They forget the thousands of women in the "slums" where a family is often crowded into one poor room who would be thankful to go themselves and to take their children to modest-looking cottage baths but who would not enter "a palatial building." More attention should be given in this matter to the wants of those who form the majority of the population.

Manchester Southern Hospital: the Burns Cot.

At the Burns anniversary dinner of the Manchester and Salford Caledonian Association last year a very kindly suggestion was made by Mr. Peter Black. It was that as a memorial to Robert Burns a fund should be raised for the endowment of a cot in the Manchester Southern Hospital for Women and Children. This fund has now reached £350.

Stockport Isolation Hospital.

At the meeting of the Stockport Town Council on May 1st a scandal, as the report calls it, at the isolation hospital was discussed. The Sanitary Committee reported that a number of complaints had been made about the general administration of the hospital, and that the steward and matron and all the servants had resigned. It seems from the report that the patients and staff have been "boarded" with the matron, and the committee resolved that this system should be discontinued, that the committee itself should contract for the supply of food, and that the medical officer of health "cannot be exonerated from blame" for not keeping a more watchful eye on the feeding of the patients, for it was said that they had not had sufficient food. One of the most remarkable statements was made by an

alderman who is reported to have said that "the matron had a right to make a profit out of the boarding of the patients, or else she should make an application for an increase of wages." It is easy to see how this system must almost inevitably lead to abuse. Nine pints of milk for 47 patients—two of them on "milk diet"! This cannot be called an extravagant allowance. When the medical officer asked the children one day at dinner-time if they wanted any more to eat 40 of the 43 present (17 girls and 23 boys) put up their hands. When they sent to the cook she replied that they had had "their allowances." The medical officer calculated that in 13 fortnights the milk was 1820 pints short, and no account had been kept of the stimulants used. At the inquiry of the committee the chairman informed the nurses that if they told the truth no action should be taken against them afterwards, but the alderman who approved of "farming" the patients "actually moved that the nurses should be asked to send in their resignations." They had complained of their food. No doubt, now that these abuses have been exposed to the light of day they will be remedied, but the moral may be drawn that all institutions require the watchful supervision of disinterested persons.

May 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow Small-pox Epidemic.

THE condition of the city in reference to the occurrence of small-pox continues to improve. New cases are now only occasional events, and the total number of patients under treatment has fallen to nearly 100. An interesting official statement dealing with vaccination and revaccination in the city was made by the Lord Advocate in the House of Commons on May 3rd. From this it appears that practically the whole infant population is vaccinated as the normal and regular rule, and quite independently of the existence of small-pox. Thus in 1899 the total number of births was 24,247, and of this number, after deduction of those who died before the ordinary period for vaccination had expired, only 775 remained without satisfactory evidence in connexion with vaccination. Revaccination is in an entirely different position. Except when small-pox is present in the community it is almost entirely neglected, and it is only when the disease shows considerable activity that the practice becomes anything like popular. Thus in connexion with the present epidemic small-pox first showed itself in April, 1900, yet, as far as the official returns on the subject go, the numbers revaccinated for each period of four weeks were below 100 per 10,000 of the population above five years of age until the months of February, March, and April last, when they rose to 1740, 1244, and 1534 respectively. On the same occasion the Lord Advocate, in remarking on the misapprehensions which have prevailed regarding the severity of the outbreak, quoted figures to show that in the year terminating March 31st, 1901, the total number of cases had only amounted to 2·26 per 1000, whilst the deaths had been 197 out of a population of 750,000.

The Public Health of Glasgow.

A sub-committee of the Corporation of Glasgow has for some time been engaged in the consideration of a proposal to establish one or more municipal cemeteries. From a report recently presented to the town council it appears that such cemeteries are owned by 55 municipalities in England, by five municipalities in Scotland, and by one municipality in Ireland. With reference to the existing cemeteries in Glasgow, the report states that in one of these 36,331 interments have taken place in one small plot of ground during the last 15 years. The cost of lairs in various municipal cemeteries is also shown to be less than the charges in the Glasgow cemeteries. For these and other reasons the sub-committee recommends the town council to approve of the principle of establishing one or more municipal cemeteries in the city or immediate neighbourhood, and asks for powers to report upon the detailed arrangements necessary for carrying out the scheme. The consideration of the report will occupy the attention of the council at its next meeting. Councillor Dr. James Erskine has given notice of his intention to propose at that meeting a motion directing the health committee to consider and report upon the measures which can competently be taken by the corporation in the way of establishing in working-class districts one or more depôts for supplying wholesome prepared milk with a view to diminish infantile mortality.

Marine Biological Association.

In his inaugural address in connexion with the new teaching arrangements at the Millport Marine Station Sir John Murray, K.C.B., discussed the practical value of the scientific research work carried on at this and similar institutions and claimed that such work was essential for the material progress and welfare of the nation. In illustration of this position he referred to the *Challenger* expedition, the expenditure on which—a sum of nearly £200,000—it was sometimes reproachfully said had produced no corresponding economic result. As a matter of fact his own work on a small group of organisms had enabled him to point out that the rocks on a certain oceanic island were of great value; his report had led to the acquisition of this island by the British Government and within the next few years he believed that the commercial value of this one observation would more than meet the entire outlay on the whole of the expedition. Sir John Murray announced his intention to give three prizes of £50 each for the encouragement of work in biological science.

University of Aberdeen.

The prize presented by Lord Strathcona, Lord Rector of Aberdeen University, will, so far as the medical faculty is concerned, be awarded this year to the best thesis in the professional examination for the M.D. degree. The demolition of old buildings to afford the site for the new Greyfriars church in connexion with the extension of Marischal College has now been commenced.

May 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dublin Branch of the National Association for the Prevention of Tuberculosis.

THE annual meeting of the Dublin Branch of the National Association for the Prevention of Tuberculosis was held on May 4th in the hall of the Royal College of Physicians of Ireland. His Excellency the Lord Lieutenant of Ireland was in the chair and in the course of the proceedings he delivered a most interesting address, in which he said that any discussion on matters affecting the health of the people of Dublin led to only one conclusion—namely, that the question of sanitation in Ireland required the gravest consideration from all Irishmen. He hoped that meetings such as that would induce the people to take a more serious view of their responsibility and of the measures which they should take in order to prevent the spread of a terrible scourge such as tuberculosis. His Excellency referred to the deep interest which His Majesty takes in the problem of the housing of the working classes and to the prominent place in the deliberations of the congress to be held in London in July which this subject will certainly occupy. He made a pointed allusion to the comparatively small proportions of the meeting which he addressed and said that he feared that it might be typical of a want of energy and determination on the part of the citizens of Dublin at large to support the operations of the association. His Excellency's address was, as usual, thoughtful and suggestive, and, moreover, humorous when he alluded to his own recent attack of influenza which the medical faculty had failed to stave off. The meeting was also addressed by the President of the Royal College of Physicians of Ireland, the President of the Royal College of Surgeons in Ireland, Mr. Justice Barton, the Registrar-General, and Professor Antony Roche.

The Meath Hospital and County Dublin Infirmary.

The annual meeting of the life members and governors of the Meath Hospital took place on April 29th in the boardroom of the institution. In the absence of Lord Meath the chair was occupied by Sir Percy Grace, to whom the general and medical reports of the hospital for the past year were submitted.

Royal College of Physicians of Ireland.

Sir Christopher Nixon, President of the Royal College of Physicians of Ireland, entertained a distinguished company

at a collegiate banquet on the evening of April 29th. His Excellency the Lord Lieutenant of Ireland was unable, owing to indisposition, to be present.

Health of Belfast.

From March 24th to April 20th, 1901, there have been notified in Belfast 90 cases of typhoid fever, 60 of simple continued fever, 39 of erysipelas, 21 of scarlet fever, 11 of diphtheria, 5 of croup, 4 of puerperal fever, 2 of small-pox, and 1 of typhus fever. In the same four weeks there were in Belfast 849 births and 755 deaths. There were 93 deaths from zymotic diseases, 100 from phthisis, and 289 from respiratory diseases. The annual death-rate from all causes was 27·4 per 1000, 3·4 from zymotic diseases, and 11·1 from chest affections. Two cases of small-pox occurred in barracks. The patients, who had caught the disease in Scotland, were removed promptly to the Union Hospital, and so far no other cases have occurred. It is said that some other cases of small-pox have been met with in the neighbourhood of Lisburn. In the discussion following the medical report at the meeting of the Belfast City Council on May 1st one of the speakers drew attention to the duplications of notifications of infectious disease and to the alleged fact that many medical men in large practices do not notify at all. The matter is to be inquired into.

Belfast Medical School: the Summer Session.

The summer session began last week both at the Royal Victoria Hospital and at Queen's College, Belfast, where classes are now in full work again.

The North Infirmary, Cork.

The annual meeting of subscribers to the above institution was held recently, and the report for the year 1900 was read by the honorary treasurer. The statement on the whole was a satisfactory one. The daily average number of beds occupied was 77. The cases of accident and emergency numbered 7520, and there were 21,853 attendances in the extern departments. With regard to the financial state of the institution it was pointed out that a special appeal had so far resulted in the receipt of £250, but on the other hand there had been a slight falling off in the subscriptions. The total expenditure was £3501 0*s.* 8*d.*, and at the end of the year the infirmary was in debt to the amount of £524 18*s.* 5*d.* The cost of maintenance per bed was nearly £46. The governors expressed their very high commendation of the services rendered by the medical, surgical, and nursing staffs during the year.

Hospital Saturday in Limerick.

A very representative meeting presided over by the Mayor was held in Limerick last week for the purpose of establishing a Hospital Saturday collection in aid of Barrington's, St. John's, and the Lying-in hospitals. The Mayor, in the course of his observations, mentioned that the debt of Barrington's Hospital was £12,000, while that of St. John's Hospital was £1500. The various speakers warmly commended the project and it was decided that the funds should be distributed as follows: one-fifth to the Lying-in Hospital and the remainder to be divided equally between the two other hospitals.

May 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Medical Application of Intra-spinal Injections of Cocaine.

INJECTIONS of cocaine into the sub-arachnoidal spinal space, on the utility of which surgeons and accoucheurs are not agreed, are becoming more and more used in medical treatment. M. Marie and M. Guillain have reported a case in which an acute attack of lumbago was cured in eight minutes by an injection of five milligrammes of cocaine. It is true that M. Merklen and M. Rendu have observed the same results to follow injections of artificial serum or of distilled water while the use of cocaine in neuralgia of the hairy scalp and in a case of acute lumbar rheumatism has had no success whatever. M. Achard met with a striking success by the use of this method in a case of acute pain in a man suffering from zona of the abdomino-crural region, while in another case the effect was even more remarkable. The patient suffered from syphilitic myelitis and had for some years been subject to crises of painful priapism through which he had been arrested upon a charge of outraging public decency. The injection of one centigramme of cocaine entirely did away with the priapism and the pain. The patient remained well for a space of three weeks when he left the hospital. M. Sicard has just proposed an improvement in the method of administration which makes the operation much safer. He makes the injection at the level of the sacro-coccygeal articulation and so obviates any risk of wounding the cord. True surgical anæsthesia cannot be obtained in this way, but he has at once relieved cases of sciatica which were most resistant to ordinary treatment. By a somewhat similar method of treatment M. Debove has succeeded in relieving, for the moment, gastric crises in cases of tabes by simple lumbar puncture.

Ichthyol in Leprosy.

M. de Brun of Bayreuth has laid before the Academy of Medicine some remarkable results obtained by him in the treatment of tuberculous leprosy by ichthyol administered by the mouth. He began by daily doses of 30 centigrammes, but soon found that he could give five grammes at a sitting, which dose could easily be increased to eight or 10 grammes without bad results. After some months' treatment the tubercles became paler and flattened and the ulcerative rhinitis almost completely disappeared. Local applications of ichthyol gave no result and the drug was absolutely useless in the case of anæsthetic leprosy.

The Transactions of the Interpational Congress of Medicine.

The publication of the Transactions of the International Congress of Medicine held at Paris is going ahead with unheard-of rapidity. The transactions of the congress held at Rome have only got as far as the second volume, those of the Moscow Congress are only just out but the Paris transactions will appear by the end of August—that is to say, within a period of one year. Volume I., containing the section of Neurology, was published in December, the volume on the Urinary Tract appeared on Jan. 15th, and that on Histology, Anatomy, and Physiology on March 10th. One volume will come out every 15 days The 17 volumes will contain altogether 14,000 pages of text. This remarkable result does honour to the Librairie Masson which alone of French publishing houses could have carried such a colossal enterprise to a successful end. The success attained is due to the work having been divided up among various sections, each of which works as an independent body under a responsible secretary whose work has much facilitated that of the general secretary, M. Chauffard, and of the president, M. Lannelongue.

Murderous Attack on a Medical Man.

Dr. Monnier, surgeon to the hospital at Vaucluse, a man very highly esteemed in the district and mayor of the town, has been the victim of a homicidal attempt perpetrated whilst he was making his visit in the hospital. A patient who had been admitted with cancer of the tongue came up to him for the purpose of making a complaint, and suddenly, before anyone could perceive his intention, he plunged a knife into Dr. Monnier's breast and then killed himself on the spot with the same weapon. Dr. Monnier is still alive, but in a very serious condition. The patient, who knew that his disease was incurable, had for a good while shown signs of despondency, and at the same time was full of complaints against the surgeon who, he said, did him no good. It has since been ascertained that 10 years ago the man had some personal disagreement with Dr. Monnier in the course of an electoral contest.

May 7th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Bubonic Plague.

CASES of plague continue to occur at Perth and Brisbane and the public in both cities are rushing to be inoculated with anti-plague serum. In Perth the supply of Haffkine's serum is running short. In New South Wales and Victoria strict precautions are being observed to prevent the introduction of the disease by sea, and destruction of rats is prosecuted with vigour. Up to date 12 cases have developed at Perth, two of which ended fatally.

Outbreak of Small-pox.

The quarantine regulations have once more failed to keep

small-pox out of Australia, and as the means of communication between Australia and other countries increase and the time occupied in the voyage is decreased such failures will be more and more frequent. In the present case the steamer *Euryalus* arrived in Melbourne from Calcutta on March 2nd, discharged her Melbourne passengers and cargo, and went on to Sydney, and thence to Newcastle. On March 13th one of the Melbourne passengers was discovered to be suffering from small-pox and was promptly placed in the sanatorium. It was then found that when the *Euryalus* reached Adelaide one of the passengers was unwell, but the captain reported all well to the health officer, who, however, noticed the sick passenger, examined him, found his temperature normal, and did not regard the case as one of small-pox, although the patient had an eruption on his arms. The vessel was accordingly cleared at Adelaide. This passenger was with some difficulty traced to Sydney, where he was found to be still suffering from small-pox and was removed to quarantine. In the meantime he had been moving freely about both in Melbourne and Sydney. Most of the other passengers by the *Euryalus* have been traced and kept under observation and so far no other cases of small-pox have been discovered in Melbourne, but one case developed in Sydney. The greater number of the passengers by the *Euryalus* were vaccinated in Calcutta recently. The *Euryalus* was fumigated at Newcastle and detained under observation, but no cases having occurred among the crew she was released from quarantine on March 28th. The Board of Health of Victoria are taking legal advice as to prosecuting the captain of the *Euryalus* for breach of the Quarantine Act.

The Adelaide Hospital.

The dispute at the Adelaide Hospital has been settled at last. Dr. W. Ramsay Smith, the resident physician appointed by the Government, has left for South Africa as medical officer to the fifth contingent and before leaving he tendered his resignation as physician to the hospital. Dr. J. C. Verco and Dr. Hayward, the honorary physicians to the hospital at the time when the dispute began, will immediately take over Dr. Smith's beds, and arrangements are being made for the university staff to begin work at the hospital.

Site for the New Children's Hospital, Sydney.

Some time ago the Government of New South Wales provided a site for a new children's hospital. Objection is now taken to the site that it is too difficult of access, and that it would cost from £3000 to £4000 to drain and to prepare the site for a hospital. The committee of the hospital have cast envious eyes on what they regard as an ideal site in the neighbourhood but which was not in the gift of the Government. A deputation recently waited on the Colonial Secretary to ask permission to sell the site given by the Government and purchase the other which, it was understood, would shortly be for sale. The Minister promised to lay the matter before the Cabinet. The public has responded very well to the call for funds for the erection of the new hospital and over £10,000 have been subscribed already.

Prince Alfred Hospital, Sydney.

A deputation representing the board of directors of the Prince Alfred Hospital, Sydney, waited recently on the Colonial Secretary to ask him to provide the necessary funds (£40,000) for completing the original design of the hospital. This would be done by erecting two pavilions to accommodate 120 patients. It was pointed out that patients had daily to be refused admission to the already overcrowded hospital. The number of beds at present was 236, but only on nine days since the beginning of the year has the number of patients not exceeded this, rising as high as even 249. The Royal Commission on Public Charities reported that "any increase of hospital accommodation in Sydney should be in connexion with this institution; the space is ample, the site good, and the administrative buildings being already in existence the cost per bed of extra accommodation would be materially reduced." The Minister was sympathetic and assured the deputation that the Government would submit to Parliament in the next estimates a vote for £40 000 to build the additions to the hospital, and he quite appreciated the noble work which the Prince Alfred Hospital was doing.

The Inebriates Act, New South Wales.

The Colonial Secretary is considering the selection of a site for the necessary buildings for the purposes of the new Inebriates Act. One of the islands on the Parramatta river has been suggested as suitable.

Death of Mr. W. Langford.

Mr. William Langford, M.R.C.S Eng., died at Kyneton, Victoria, on March 21st. He was born at Mysore, India, in 1831 and was educated at King's College, London. He was for a time surgeon to the hospital at Coventry and then entered the service of the Peninsular and Oriental Steam Navigation Company. He came to Australia in 1865 and commenced practice in Castlemaine and subsequently moved to Kyneton where he has since practised. He married a niece of Cardinal Newman and daughter of a well-known writer for the *Times*. Mr. Langford had literary tastes. He wrote a lengthy poem founded on a Sanskrit legend and published two novels entitled "Tifana's Revenge" and "Werona."

March 29th.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the examination for the degree of M.C., Easter Term, the following candidate was successful:—

W. D. Harmer, M.A., King's.

At the third examination for medical and surgical degrees, Easter Term, the following candidates were successful:—

Part I., Surgery and Midwifery.—F. H. M. A. Beckett, B.A., H. Selwyn; L. Bousfield, B.A., Pembroke; A. P. Bowtler, B.A., Sidney Sussex; J. Bradford, B.A., Emmanuel; A. S. Bradley, B.A., Caius; H. C. Brown, B.A., Emmanuel; G. V. Bull, B.A., Caius; C. Burrows, B.A., Emmanuel; F. R. Carroll, B.A., Trinity; E. I. Claxton, B.A., and G. D. Franklin, B.A., King's; J. C. W. Graham, B.A., Trinity; G. S. Graham-Smith, B.A., Pembroke; R. H. Harrisson, B.A., Clare; R. F. G. T. Heap, B.A., Sidney Sussex; J. P. Hedley, B.A., and H. T. Hodgkin, B.A., King's; A. C. Hudson, B.A., and H. L. P. Hulbert, M.A., Trinity; W. W. Jeudwine, B.A., H. Selwyn; A. P. Laycock, B.A., St. John's; G. E. Loveday, B.A., Caius; J. McBryde, B.A., King's; D. J. Morgan, B.A., St. John's; A. E. Naish, B.A., and S. Nathan, M.A., Trinity; C. de C. Pellier, M.A., Clare; D. Pennington, B.A., Caius; J. W. Rob, B.A., St. John's; A. R. Roche, B.A., Queens'; R. Rolfe, B.A., Clare; F. Sanger, B.A., St. John's; B. B. Sapwell, B.A., Corpus Christi; C. H. Sedgwick, B.A., Sidney Sussex; F. E. Shipway, B.A., Christ's; A. M. Simpson, B.A., King's; J. E. B. Snell, B.A., B. Spearman, B.A., and R. Spearman, B.A., Caius; G. L. Tuck, B.A., Emmanuel; H. Wacher, B.A., St. John's; G. H. L. Whale, B.A., Jesus; J. Wharton, B.A., St. John's; G. M. Wilson, B.A., Trinity; H. M. Wilson, B.A., Trinity Hall; and F. R. Wood B.A., Downing.

Part II., Medicine.—A. P. M. Anderson, B.A., Trinity; A. H. Brehaut, B.A., H. Selwyn; A. R. M. Bremner, B.A., Trinity; J. M. Brydone, Jesus; A. E. Carver, B.A., Clare; F. J. Child, M.A., Christ's; J. S. Clarke, M.A., Caius; L. S. Gaskell, M.A., Christ's; C. H. Glenn, B.A. Pembroke; J. A. Glover, B.A., St. John's; H. Gordon-Smith, B.A., Trinity; A. W. Greig, B.A., Jesus; M. C. Hayward, M.A., Caius; A. E. Hodder, B.A., King's; A. C. Ingram, B.A., St. John's; A. S. Mellor, B.A., King's; C. H. Miller, B.A., Trinity; F. R. Murray, B.A., St. John's; G. H. Orton, B.A., J. C. S. Rashleigh, M.A., and L. Reynolds, B.A., Trinity; H. H. Riddle, B.A., Peterhouse; R. D. Smedley, B.A., Pembroke; A. E. Taylor, B.A., Downing; N. F. Ticehurst, M.A., Clare; J. L. Timmins, B.A., Emmanuel; W. E. Tucker, Caius; F. E. Weaver, B.A., Trinity; and R. F. Williams, B.A., Caius.

Mr. A. F Stabb, M.B., B.C. Cantab., has been appointed an additional Examiner in Midwifery.—The research work of Dr. Marett Tims on the Dentition of the Caviidæ and the Canidæ has been approved by the Degree Committee as a qualification for the B.A. degree.—Professor Clifford Allbutt and Professor Sims Woodhead will represent the University at the British Congress on Tuberculosis to be held in London in July.

UNIVERSITY OF DURHAM.—At the Convocation held on April 27th the following degrees and diploma were conferred:—

Doctor in Medicine.—Thomas Ponsford Cann, M.B., B.S. Durh.; Henry Coxon Coxon, M.B., B.S. Durh.; Herbert William Dudgeon, M.B., B.S Durh.; Howard Percy Kennard, M.B., B.S. Durh.; Norman Sheridan, M.B. Durh.; Bertram Crossfield Stevens, M.B., B.S. Durh.; and Thomas John Augustus Tulk-Hart, M.B., B.S. Durh.

Doctor in Medicine (Practitioners of Fifteen Years' Standing).—William Edwin Barton, M.R.C.S., L.R.C.P., L.S.A.; Edgar George Bulkeley, L.R.C.P. & S.; Roland Frederic Cox, M.R.C.S., L.R.C.P.; John Charles Davies, M.R.C.S., L.R.C.P., L.S.A., D.P.H. Durh.; Richard Emmett, M.R.C.S., L.R.C.P., L.S.A.; David Gault, L.R.C.P. & S.; George Herbert Graham, M.R.C.S., L.R.C.P., L.S.A.; Herbert Wheatley Hart, M.R.C.S., L.S.A.; Richard Thacker King, L.R.C.S. Irel., L.R.C.P. Irel., L.M.; Herbert William Knowles, M.R.C.S.; James McGaw, L.R.C.P. & S.; Percy Robert Mander, M.R.C.S., L.R.C.P., L.S.A.; William Odell, F.R.C.S., L.S.A.; Ernest Rawson, M.R.C.S., L.S.A.; and Ernest Oliver Scallon, M.R.C.S., L.S.A.

Doctor in Hygiene (D. Hy.).—Reginald Green, M.D., B.S., B.Hy.

Bachelor in Medicine (M.B.).—Edmund Howard Barrett, M.R.C.S., L.R.C.P., St. Mary's Hospital; George Burrows Brown, College of Medicine, Newcastle-upon-Tyne; Frederick Clarkson, St. Thomas's

Hospital; Charles Fisher, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; James Willie Heslop, Richard Arthur Mills-Roberts, M.R.C.S., L.R.C.P., and Stanley Raw, College of Medicine, Newcastle-upon-Tyne; Thomas Basil Rhodes, Birmingham University; William Waters Stainthorpe, Junr., College of Medicine, Newcastle-upon-Tyne; Fred Stuart, M.R.C.S., L.R.C.P., College of Medicine, Newcastle-upon-Tyne, and St. George's Hospital; Alexander Minter Watts, M.R.C.S., L.R.C.P., University College, London; Frederick Percy Wigfield, College of Medicine, Newcastle-upon-Tyne; and Reginald Worth, M.R.C.S., L.R.C.P., St. Mary's Hospital.

Bachelor in Surgery (*B.S.*).—Edmund Howard Barrett, M.R.C.S., L.R.C.P., St. Mary's Hospital; Frederick Clarkson, St. Thomas's Hospital; Charles Fisher, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; James Willie Heslop, and Stanley Raw, College of Medicine, Newcastle-upon-Tyne; Thomas Basil Rhodes, Birmingham University; William Waters Stainthorpe, Jun., College of Medicine, Newcastle-upon-Tyne; Fred Stuart, College of Medicine, Newcastle-upon-Tyne, and St. George's Hospital; Alexander Minter Watts, M.R.C.S., L.R.C.P., University College, London; Frederick Percy Wigfield, College of Medicine, Newcastle-upon-Tyne; and Reginald Worth, M.R.C.S., L.R.C.P., St. Mary's Hospital.

Bachelor in Hygiene (*B.Hy.*).—George Whitson Middlemiss, M.B., B.S. Durh., and Duncan Macfadyen Millar, M.B., C.M. Glasg.

Diploma in Public Health (*D.P.H.*).—Andrew Halliday, M.B., C.M. Glasg.; George Whitson Middlemiss, M.B., B.S. Durh., and William Henry Rowell, M.D., B.S., B.Hy. Durh.

UNIVERSITY OF EDINBURGH.—The following is the official list of passes at the recent first, second, and third professional examinations for degrees in Medicine and Surgery:—

First Professional Examination.—Francis Aitken, J. C. D. Allan, William Anderson, W. F. Archibald, Francis Baillie, M. M. Sujjad Beg, A. M. Black, Richard Blackworth, Thomas Campbell-John Chisholm, A. G. Cook, J. G. Craig, D. C. Crole, E. G. Deverell, Pollok Donald, G. T. Drummond, F. R. Field, G. H. L. Fitzwilliams, O. M. Gericke, J. M. Grant, Thomas Grant-Charlotte R. Greenfield, O. C. Greenidge, T. A. Gregg, John Grieve, J. D. Harmer, Ada A. Hatchard, R. W. D. Hewson, Jane S. Hogg, J. G. Home, T. Scoresby Jackson, J. F. James, J. P. S. Jamieson, A. A. Jardine, Olive T. Leonard, John Lindsay, S. M. Livesey, W. L. Locke, F. J. Luck, William Lumsden, A. D. M'Callum, C. I. M'Farlane, James MacKenzie, A. C. M'Master, R. N. G. C. M'Vean, William Magill, Alfred Maleed, H. G. Marshall, William Martin, C. E. F. von Mengershausen, H. P. Milligan, C. R. S. Mitchell, J. S. Mitchell, Venancio Moralejo, H. B. Morris, G. P. Norman, H. J. Norman, G. O. Norrie, Garfield Ormrod, W. J. Patterson, A. C. Pickering, Agnes E. Porter, J. R. Robertson, W. D. Sibbald, E. M. Simmers, Oliver Smith, S. A. Smith, W. T. Smith, William Stenhouse, H. G. Sutherland, J. R. Tannahill, W. B. Tannahill, F. J. G. Tocher, A. N. J. Vizarat, Frances M. Wakefield, R. C. Walker, R. W. L. Wallace, H. E. A. Washbourn, J.S. R. Weir, Elsie B Wilkie, and R M. Wishart.

Second Professional Examination.—Daniel Allison, G. C. Anderson, J. A. Anderson, F. L. Atkinson, C. M. Begg, James Bentley, A. W. Beveridge, T. C. Blackwell, William Blackwood, F. H. Borthwick, J. C. Boyd, Edith C. Brown, G. L. Brunton, G Macqueen Brunton, Angus Buchanan, H. H. Bullmore, R. A. Chambers, Kate J. S. Clark, Elizabeth L. Colby, A F. R. Conder, C. H. Craig, R. W. Craig, C. S. Crichton, Sam Cunliffe, Henry Curwen, Arthur Dangerfield, H. S Davidson, James Davidson, W. H. Davison, D. E. Derry, A. C. Devereux, J. M. Dewar, James Donaldson, A. M. Dryden, G. J. Earle, John Findlay, John Fortune, A. C. Geddes, C. R. Gibson (with distinction), J. D. Giles, James Girdwood, Alexander Gray, M.A., H. W. Gush, A. A. Hall, M.A. (with distinction), C. R. F. Hartley, George Henderson, R L. Henderson, A. E. Hodgson, A. F. Hughes, Isaac Ivey, J. M. Johnston, R. W. Johnstone, J. H. Kay, J. W. Keay, I. C. Keir, M. L. Ali Khan, J. M. Kirkness (with distinction), L. A. H. Lack (with distinction), F. W. Lundie, Hugh M'Calman, G. S. Mackay, T. H. Mackinnon, William MacLaren, J. B. M'Neill, I. M. Macrae, P. W. Mason, A. S. Milliard, G. H. S. Mills, W. C. Morton, M.A. (with distinction), Ernest Muir, C. H. Muller, H. L. Munro, A. R. Nalborough, M. Newton, Harry Overy, T. C. E. Parry, D. D. Paton, M.A., Thomas Peebles, J. A. Pottinger, Julia L. Pringle, J. A. Raubenheimer, William Readman, Eva A. Robertson, Amy Robinson, Mabel Ross, J. A. Roux, N. C. Rutherford, D. G. Addison Scott, G. H. Skinner, S. W. Smith, Eva M Snowball, Henry Speirs, Amelia Sutcliffe, J. M. Taylor, A. R M. Thomson, Louis Turiansky, Robert Veitch, W. R. S. Watkins, G. J. Wentzel, D. H. Wessels, W. D. Wright, G. W. Young, and William Young.

Old Regulations.—R. J. Irving, Harry Whittaker, and J. O. Williams.

Third Professional Examination.—Lewis Anderson, R. G. Archibald, James Arthur, Mohomed Ashruff, Alexander K. Baxter, Breadalbane Blacklock, C. H. Bosenberg, J. R. Boeman, R. A. Braine, G. B. Brand, R. D. Brown, W. A. Brown, Archibald Brownlie, D. M. Callender, C. M. Campbell, M.A., B.Sc., G. S. Carey, J. C. G. Carmichael, T. F. Cavanagh, A. M. Caverhill, J. H. Connolly, T. M. Cuthbert, Maurice Davies, F. L. Dawson, Jan Dommisse, C. B. Drew, H. J. Dunbar, J. F. Duncan, John Dunlop, S. A. Ellerbek (with distinction), J. S. Elliott, S. C. Ellison, A. N. Fell, Sydney Gilford (with distinction), Archibald Gillespie, D. P. Goil, Wilbert Goodchild, Thomas Gowans, Andrew Grant, J. P. Gra t, B.Sc., Mabel D. Gulland, J. F. Haegert, T. B. Hamilton, D J. Hamman, Howard Harding, Frances M. Harper, A. W. M. Harvey, A. W. Hauman, Henry Herd, M.A., Mathew Holmes, William Hume, R. C. Irvine, Harold Kerr, R. D. Kidd, James Kirkwood, H. A. Knight, Hermann Kramer, Vivian Langmore, Nora Lenwood, William Lillen, Duncan Lorimer, R. C. Low (with distinction), W. F. MacDonald, D. R. Macgregor (with distinction), Isabel N. M'Keand, William M'Lachlan, S. W. Maclean, S. P. M'Neil, C. E. Marshall, W. E. Marshall, J. K. Matheson, Paul Mathews, E. J. Mayberry, A. M. Moll, J. H. Montgomery, S. A. Moore, A. E. Morton, P. H. Mules, R. S. Munro, D. N. W. Murray, William Newlands, T. H. Osler, Sophie Palmer, J. H. H. Pirie, B.Sc., Herdman Porter, W. G. Porter, B.Sc., Agnes M. Pringle, J. J. Redhead, A. B. dos Remedios, H. H. Robarts, A. B. Ross, M.A., T. W. E. Ross, A. J. Rowan, R. E. Russell, C. W. V. Rutherford, James Scobie, J. S. Sewell, A. M. Sharp, M.A., E. S. Sharpe, C. J. Shaw (with distinction), Maurice Sinclair, W. F. Smeall, J. M. Smith, Robert Sproule, Ribert Stayn, H. M. Stumbles, G. L. Thompson, Philip Vickers, D. L. Wall, B. P. Watson, Philip Weatherbe, John Wier, S. A. K. Wilson, M.A., and E. E. Wood.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Karl Günther, *custos* of the Institute of Hygiene, has been promoted to an Extraordinary Professorship.—*Bologna:* Dr. Sanarelli has been appointed to the chair of Hygiene. Dr. Rovighi has been promoted to the ordinary Professorship of Medical Pathology.—*Bonn:* Dr. Rumpf, late of the Hamburg General Hospital, has qualified as *privat-docent* of Internal Medicine.—*Halle:* Dr. E. Kromayer has been promoted to an Extraordinary Professorship of Dermatology.—*Heidelberg:* Dr. G. Port of Munich has been appointed Extraordinary Professor of Odontology.—*Leipsic:* Dr. Krönig and Dr. Menge have been promoted to Extraordinary Professorships of Gynæcology. Dr. E. Kruckmann has been promoted to an Extraordinary Professorship of Ophthalmology.—*Leyden:* Dr. von Hansemann of Friedrichshain has been offered the chair of Pathological Anatomy. He was for many years Virchow's assistant at the Charité.—*Marburg:* Dr. A. Buchholz, senior physician in the Clinic for Mental Diseases, has been promoted to a Professorship.—*Montpellier:* Dr. Planchon, Lecturer in the Pharmaceutical School, has been appointed to the chair of Materia Medica in the University.—*New York (Bellevue Hospital Medical College):* Dr. J. E. Weeks has been appointed to the chair of Clinical Ophthalmology in succession to the late Dr. Noyes.—*Paris:* Dr. Béhal has been appointed Professor of Toxicology in the École Supérieure de Pharmacie; Mdlle. A. Wyczolkowska, Doctor of Medicine, has been offered the chair of Experimental Psychology in the Psycho-Physiological Academy.—*Rostock:* Dr. Graser of Erlangen has been appointed to the chair of Surgery in succession to Professor Garré who goes to Königsberg.—*Strasburg:* Dr. Kümmel of Breslau, who had been offered the chair of Otology, has decided to retain his present post.—*Tübingen:* Dr. Bürker has been recognised as *privat-docent* of Physiology.—*Vienna:* Dr. Arthur Biedl has been promoted to an Extraordinary Professorship of General and Experimental Pathology. A "Third" Surgical Clinic has been established, the charge of which is to be given to Professor Hochenegg; Dr. Katz and Dr. Erben have been recognised as *privat-docenten* of Internal Medicine and Dr. R. Savor as *privat-docent* of Midwifery and Gynæcology.—*Würzburg:* Dr. von Franqué, *privat-docent* of Gynæcology, has been promoted to an Extraordinary Professorship.

QUEEN'S COLLEGE, BELFAST.—At the class examinations held in the above college at the close of the medical winter session the following prizes were awarded: Zoology: James Stuart Dickey, Robert Jamison, Samuel John Graham, Charles Dowall Bell, William Andrew M'Kee, William James Leighton, and Andrew Leitch.—Systematic Anatomy: senior, Henry Hanna, M.A., B.Sc., Thomas Lyle, Mary Evelyn Simms, Joseph Clarke M'Pherson, and Samuel Kirkpatrick Adams; junior, William James Wilson, William Henry Davis, and William Joseph M'Learn Baird.—Practical Anatomy: senior, Henry Hanna, M.A., B.Sc., John M'Clatchey, and Joseph Henry Thompson; second year, Thomas Lyle, Joseph Clarke M'Pherson, Malcolm Orr Wilson, Samuel Kirkpatrick Adams, and Daniel Gillespie; first year, William James Wilson, and John Stevenson O'Neill and Thomas M'Cann Phillips (equal). Physiology and Histology: senior, Thomas Lyle and Joseph Clarke M'Pherson; junior, William James Wilson and Malcolm Orr Wilson. Practical Physiology: Charles James Boucher, Samuel Kirkpatrick Adams, and Thomas Lyle. Practical Histology: Malcolm Orr Wilson, William Joseph M'Learn Baird, and Ernest Clements. Medicine: Sydney Herbert George Blakely, William Alexander Stoops, B.A., and Samuel Thompson Irwin, B.A. Surgery: senior, Sydney Herbert George Blakely, and Samuel Thompson Irwin, B.A., and Walter Phillips, B.A. (equal); junior, Thomas Henry Suffern, James Hamilton Campbell, and Joseph Corker. Materia Medica: Joseph Henry Thompson, Thomas Dixon Liddle, and Thomas Killen. Midwifery, Gynæcology, and Diseases of Children: Samuel Thompson Irwin, B.A., Robert James Bethune, James Hamilton Campbell, Frederic William Stewart, B.A., and James Wallace Killen and Samuel Robert Hunter, B.A. (equal). Ophthalmology and Otology: John Matthewson Clements, Samuel Robert Hunter, B.A., Sydney Herbert George Blakely, and Frederic William Stewart, B.A.

COAL SMOKE ABATEMENT SOCIETY.—At a committee meeting of this society, held at 14, Buckingham-gate, London, S.W., on May 1st, 83 smoke nuisances were reported by the society's inspector. Instructions were given that the reports should be forwarded to the borough councils of Hammersmith, Chiswick, Fulham, Barnes, Kensington, Acton, Shoreditch, Holborn, Willesden, Brentford, Port of London, Battersea, and City of Westminster, in whose districts the nuisances had occurred.

THE Oxford Graduates' Medical Club and the Cambridge Graduates' Medical Club decided to hold their annual dinner together this year, and the meeting took place at the Cecil Hotel on Monday, May 6th, Sir William Selby Church, Bart., M.D., F.R.C.P., being in the chair. 122 members of the two clubs attended. The chairman proposed only two toasts—viz., "The King" and "The Clubs." After these had been drunk the company adjourned to an adjoining room, where musical entertainment was provided by various members of the two clubs.

THE LATE MR. A. E. WATSON.—Mr. Arthur Edmundstone Watson died at his residence, 8, Portland-place, Torquay, on April 26th, after a short illness, in his thirty-fifth year. The deceased was the son of the late Mr. John Watson of Paris, and received his medical education at the Middlesex Hospital, where he obtained several prizes and was awarded the Broderip Scholarship in Medicine and Surgery in 1888. In the same year he qualified as L.R.C.P. Lond. and M.R.C.S. Eng., and after being casualty house surgeon at Middlesex Hospital was appointed house surgeon at the Torbay Hospital, Torquay. He had only lately resigned this post and commenced practice in Torquay, having been quite recently appointed a member of the staff of the Torbay Hospital. Mr. Watson contributed several reports of cases to THE LANCET in 1892, 1893, and 1896.

THE MEDICAL OFFICER OF HEALTH OF THE GELLIGAER AND RHIGOS RURAL DISTRICT.—The parish of Gelligaer is situated within the Merthyr Union in South Wales and is one of the wealthiest districts in the whole principality, having an area of nearly 23 000 acres and a rateable value of over £105,000. It is a mining district and during the last 10 years the population has increased from 13,718 to 18,959. Just over a year ago the post of medical officer of health became vacant by the death of Mr. Dyke who lived not in Gelligaer but in the town of Merthyr, and Dr. W. W. Jones, also of Merthyr, received the appointment, the tenure of which is annual. The question of Dr. Jones's re-appointment was recently under consideration by the parish council who have decided to impose a condition not hitherto attaching to the position—viz., that the medical officer of health shall reside in the district itself. The members of the council spoke highly of the efficient manner in which Dr. Jones had performed his duties, but thought that the interests of the district required that the medical officer of health should be resident within it. The salary is £126 per annum. Dr. Jones has consented to carry on the duties pending the decision of the Local Government Board to whom the question has been referred.

PRESENTATIONS TO MEDICAL MEN.—At a meeting of the members of the Cambridgeshire Hospital, Wisbech, on April 2nd, Mr. Charles Herbert Gunson, M.B. Glasg., was, on the occasion of his marriage, the recipient of a writing table, bearing on a brass plate an appropriate inscription, which was subscribed for by the trustees, committee of management, honorary medical officers, and other officials.—On the distribution of the prizes at Hunslet, on March 21st, obtained by the members of the Steam Plough Works Branch of the St. John Ambulance Association, Mr. L. A. Rowden, M.B. Glasg., was presented with a silver matchbox from the members of the class in recognition of his first-aid instructions.—On March 28th Mr. Edward James Sheppard, L.R.C.P., L.R.C.S Edin., was presented with a walking stick, suitably inscribed, from the members of the Park-place (Clifton) Evening Continuation Schools Branch of the St. John Ambulance class as a mark of their appreciation of his services as honorary lecturer.—Mr. Tom R. Taylor, B.Sc., M.D. Lond., F.R.C.S. Eng., has been presented by the Hospital Saturday Fund Division of the St. John Ambulance Brigade and first-aid nursing classes with a cabinet, &c., as a mark of gratitude for his services during the past few years.—A large and representative meeting of the inhabitants of Newburgh and district, Fife, was held in the Public Hall, Newburgh, on April 27th, to present Mr. Thomas Niven, M.B. Glasg., J.P., with a testimonial on his attaining his semi-jubilee as a medical practitioner in Newburgh. Provost Anderson of that town presided. Mr. Cathcart of Pitcarlie, convener of the county, in making the presentation in the name of the subscribers, remarked that Dr. Niven had practically made one of the largest districts his own, and the testimonial, which consisted of a valuable silver salver and a cheque, was a testimony that the inhabitants with whom he had lived for the past 25 years highly esteemed him and appreciated his professional services.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Lunacy Bill for Ireland.

THE Lord Chancellor of Ireland has introduced in the House of Lords a Bill to amend the law relating to lunatics in that country.

Cremation.

The Bill to enable burial authorities to establish crematoria is now in a favourable position for passage into law during the present session. It has passed through all its stages in the House of Lords and in the House of Commons, it has been read a second time, and has successfully emerged from the ordeal of examination by the Grand Committee on LAW. In its present state the Bill provides that the plans of each crematorium shall be approved by the Local Government Board and that the working of the establishment shall be carried on under regulations prescribed by the Home Office. It expressly states that these regulations shall prescribe in what cases and under what conditions the burning of any human remains may take place, and also the forms of the notices, certificates, declarations, and registrations. When the Bill was before the Grand Committee on Law it was suggested that a special clause should be inserted to safeguard the interests of justice, but the Solicitor-General expressed the view that the Home Office regulations would be sufficient for this purpose.

HOUSE OF COMMONS.

THURSDAY, MAY 2ND.

Ophthalmia and Ringworm in London Poor-law Institutions.

Dr. FARQUHARSON asked the President of the Local Government Board whether he would state the number of children in the metropolitan Poor-law schools, infirmaries, and workhouses who were returned as suffering from ophthalmia and ringworm respectively on the date of the last return.—Mr. WALTER LONG replied: The returns are not all made up to the same date, but according to the latest information in my possession the number of children suffering from ophthalmia and ringworm respectively is: in metropolitan Poor-law schools 445 and 280 and in metropolitan workhouses and infirmaries 337 and 297.

Curious Question of Diagnosis.

Dr. FARQUHARSON asked the President of the Local Government Board (1) whether his attention had been called to the fact that 47 children had been removed from the Forest-gate Poor-law schools to the fever hospitals of the Metropolitan Asylums Board under the erroneous belief that they were suffering from scarlet fever; and (2) whether any of the children had contracted scarlet fever when in the fever hospitals.—Mr. WALTER LONG replied: I am aware of the fact mentioned in the first paragraph of the question. I am informed that following some cases of undoubted scarlet fever among the children in the schools in February and March of this year, a number of suspicious cases occurred in April, some of which were sent to the hospital as cases of scarlet fever. It ultimately appeared, however, that none of the children thus sent in April were, in fact, suffering from that disease. I am advised that any error which may have been committed in sending these cases to the hospital cannot with justice be attributed to any want of care or anything else than anxiety to do the best for the safety of the school. As regards the last paragraph of the question, I understand that none of the children sent to the fever hospitals contracted scarlet fever there.

Medical Treatment of Sailors.

Mr. ARNOLD-FORSTER, in reply to a question addressed to him by Mr. KNOWLES, said that it was not the practice in the navy to send sailors to their homes on sick furlough, as they were treated in naval hospitals. The Admiralty did not pay the fees of medical practitioners who might attend seamen taken ill while on leave, but an allowance of 2s. a day was granted to the men to assist them in defraying the cost of board, lodging, and medical attendance.

State Inebriate Reformatories.

Mr. RITCHIE announced that he had given his approval to plans for State inebriate reformatories for both men and women, and that the work would be proceeded with as quickly as possible. He expressed the hope that temporary arrangements for the reception of women would be completed in three months.

Netley Hospital Case.

Mr. J. P. FARRELL asked the Secretary of State for War whether he was aware that on the night of March 31st last Private Michael Lee, late of the Imperial Yeomanry, who was at present confined to bed in Netley Hospital suffering from fits, the result of injuries received in South Africa, was beaten by the night student in charge of his ward whilst suffering from a fit; and that this young student had given orders not to be disturbed whether any of those in his care were ill or not, and on being called by the nurse to see Lee who was ill said that when he had done with him the patient would have few fits and thereupon proceeded to beat him in such a manner that his face was almost

unrecognisable for days after; could he state whether any inquiry was held into this case; and what was the name of, and the punishment awarded to, this student.—MR. BRODRICK replied: It appears from the medical and military inquiries which have been held that this was a case of hystero-epilepsy and that the surgeon-in-charge restored the patient to consciousness by slapping his face. There appears to be no doubt that the treatment was unnecessarily violent and some swelling was caused and the surgeon has been censured by his superiors. The surgeon justifies the treatment as being necessary to rouse the patient from the fit and I therefore propose to take eminent medical advice before dealing with his case.

FRIDAY, MAY 3RD.

Plague at the Cape.

Lord STANLEY stated, in reply to a question, that the reports of the cases of plague among the troops only mention the locality in the following—viz., one at Hermon Camp, Paarl District, two at Green Point, Cape Town, and two at Cape Town. The total cases of plague among the troops up to date amount to 14 among European soldiers, 20 native drivers, and seven other employés.

Medical Volunteers at the Front.

Mr. SCHWANN asked the Secretary of State for War whether he was aware that Manchester furnished many volunteers from the Volunteer Medical Staff Corps and bearer companies of the 2nd, 4th, 5th, and 16th Volunteer Rifle Battalions, all of whom were attached to the Royal Army Medical Corps; and whether these medical volunteers could be sent home at once, as they had more than completed their year of service, and many were losing their appointments in Manchester owing to the prolonged delay in their return.—Mr. BRODRICK replied: As I have repeatedly stated to the House, special consideration has been, and will be, shown in individual cases of hardship reported to the Commander-in-Chief in South Africa by commanding officers. I am not aware that the position of these medical volunteers is different from that of the other volunteers who undertook to serve for one year or to the end of the war.

Small-pox Precautions in Glasgow.

The LORD ADVOCATE made the following statement on this subject—viz.:—There are no statistics available giving the monthly number of primary vaccinations performed in Glasgow, but practically the whole infant population is vaccinated even where no small-pox is prevalent. Thus, for the year 1899, which is the last for which the complete figures are available, the total number of births was 24,247, and of this number, after deduction of those who died before the ordinary period for vaccination expired, there remain only 775 cases unaccounted for, which again include children removed from the district who may have been vaccinated elsewhere. Except when small-pox is present in the community it is impossible to get the population generally to have recourse to revaccination, and as during the 12 months prior to the beginning of the present outbreak in April, 1900, there had been no cases of the disease in Glasgow, little revaccination was done except in the case of the staff of the fever and small-pox hospitals, the post-office, and the police. Small-pox showed itself first in April, 1900. The only figures available at present are the vaccinations by the officers of the sanitary department and returns to the medical officer of health, which show that the numbers revaccinated for each period of four weeks were below 100 per 10,000 of population above five years of age till the months of February, March, and April last, when they sprang up to 1740, 1244, and 1534 respectively. I should like to add, as I think there has prevailed some misapprehension in the matter, that during the whole year since small-pox made its appearance—i.e., from April 1st, 1900, to March 31st, 1901—the total number of cases has only amounted to 2·26 per 1000 and the deaths have been 197 out of a population of 750,000.

MONDAY, MAY 6TH.

Typhoid Fever among the Troops in South Africa.

Sir WALTER FOSTER asked the Secretary of State for War whether he could state the number of cases of typhoid fever among the forces in South Africa, and the number of deaths for each of the months of January, February, and March of this year, and also the total number of soldiers invalided home from all causes during the same months, and the number of deaths during the voyage.—Mr. BRODRICK replied that the figures were as follows:—January, 2121 cases, 356 deaths; February, 2119 cases, 391 deaths, and March, 2018 cases, 313 deaths. The number of soldiers invalided home from all causes during the same months who had arrived home was 4993 and the number of deaths during the voyage was 17.

TUESDAY, MAY 7TH.

Sanitation of New Buildings in Rural Districts.

Mr. WALTER LONG announced in reply to a question that he is preparing a series of model by-laws with respect to new buildings in rural districts which will deal only with matters most in need of control for purposes of health. The series, he said, is intended as a guide to rural district councils wishing to make by-laws on the subject and will be specially applicable to places consisting of scattered dwellings.

The Education Bill of the Government.

At this sitting of the House Sir JOHN GORST explained and introduced the Education Bill of the Government. What it proposes is to set up a new education authority in each county and county borough which in the meantime shall have the care of secondary and technical education, but which ultimately shall also have the care of primary education. This authority is to consist of a committee of members of the county council and others, male or female, who are not members of the county council, and for the work of the committee the county council is empowered to levy a rate not exceeding 2d. in the £. The Bill was formally read a first time.

ROYAL COMMISSION ON ARSENICAL POISONING.

FRIDAY, MAY 3RD.

THE Royal Commission on Arsenical Poisoning, which consists of Lord Kelvin (Chairman), Sir William S. Church, Sir William Hart-Dyke, M.P., Professor Thorpe, Dr. B. A. Whitelegge, and Mr. Cosmo Bonsor, with Dr. G. S. Buchanan of the Local Government Board as secretary, held another meeting to-day in the Westminster Palace Hotel, London, when it examined two more witnesses.

Sir H. W. PRIMROSE, Chairman of the Board of Inland Revenue, was the first witness and in the course of his examination he said that his Board possessed considerable power over breweries. These had been given for the protection of the revenue, but some might conceivably be utilised for the protection of public health if Parliament should so provide. By the Act 43 & 44 Vict., c. 20, every brewer of beer for sale was required to take out an Excise licence (Section 10), and to make entry of his premises, &c. (Section 22), by delivering to the revenue officer a statement signed by him of the description of his premises, and of every room, place, and vessel intended to be used by him for his business, specifying the purpose for which each room, place, and vessel was to be used. The officer was empowered (Section 29) to enter any part of the premises at any time either by day or night to take an account of the materials used or to be used in brewing, and of the worts and beer produced. The officer was also empowered (Section 26) to take samples of any worts, beer, or materials for brewing in the possession of the brewer. By the Act 48 & 49 Vict., c. 51 every brewer of beer for sale who used any description of sugar was required (Section 7) to keep it until used in a sugar store, and was prohibited from receiving sugar unless it was accompanied by an invoice from the seller containing the particulars thereof. The Commissioners of Inland Revenue were empowered to require by a notice served upon the brewer that an account of all sugar received should be kept and upon the notice being given the brewer was required to deliver to the officer of Inland Revenue all the invoices relating to sugar subsequently received. A brewer of beer for sale was prohibited (Section 8) from adulterating beer or adding any matter or thing thereto except finings for the purpose of clarification or other matter or thing sanctioned by the Commissioners of Inland Revenue. By the Act 51 & 52 Vict., c. 8, the Commissioners of the Treasury were empowered (Section 5) to prohibit by notice in the *London Gazette* the use in brewing of any substance or liquor of a noxious or detrimental nature, or which, being a chemical or artificial extract or product, might affect prejudicially the interest of the revenue. Under this power the use of saccharin in brewing was prohibited by notice in the *London Gazette* of May 18th, 1888. As regards the policy of utilising the Excise Department as a guardian of public health, the Board of Inland Revenue were of opinion that it would be necessary to confine their intervention within narrow and well-defined limits. The test for the sake of public health was different from that applied for the purposes of public revenue. Therefore it would be an additional duty if the department had to test for soundness. He thought that the duty was one that would better be intrusted to the various localities. It could not be said that the department had taken any definite action with reference to the recent epidemic except to test samples of wort and beer for arsenic and to repay the duty on contaminated beer which was on brewery premises and which was destroyed. The Board, of course, considered whether any preventive action could be taken by them. But the facts connected with the epidemic were then, and to some extent still were, obscure, and eventually it was decided, after conference with the Treasury and the Local Government Board, to await the result of the several inquiries which were instituted, more especially that of the present Royal Commission.

Dr. JAMES CAMPBELL BROWN, professor of chemistry in University College, Liverpool, and Victoria University, and chief of the county laboratory, Liverpool, was the other witness examined. He presented to the committee the results of analyses of various substances for arsenic, among them the results of 800 samples of beer. Of 52 samples of beer accurately determined one contained as much as 1·3 grains of white arsenic per gallon and two as little as from 0·03 to 0·06 grain of white arsenic per gallon. 16 samples were approximately estimated to contain between one-half grain and one grain per gallon. Of brewing sugars one black glucose contained nine and three-quarter grains per pound and another eight grains per pound, these being the highest proportions. 48 samples of malt had been analysed during three months from private sources. All except six contained arsenic in quantities varying from a minute trace up to a quarter of a grain per pound. The six samples of malt free from arsenic had all been brushed after they came from the kiln. Six additional samples of malt had been analysed in March. These showed a great improvement. The largest quantity was 0·04 or one-twenty-fifth of a grain per pound, and two contained only the minutest trace—practically nothing. 19 samples of yeast were analysed, all of which (except one) contained a distinct trace of arsenic. The quantity in each was too small to be determined, but the average quantity in the 18 samples was found to be 0·015, or one sixty-seventh of a grain per pound. Latterly 14 additional samples of yeast had been analysed, all of which except two contained similar quantities of arsenic. He had analysed six samples of brown oil of vitriol obtained from Messrs. Bostock. The first when received on Nov. 27th, 1900, was clear and brown, but it was supersaturated with arsenic. It contained 2·6 per cent. of arsenious oxide. On standing in a cool place for some weeks, with occasional disturbance, it gradually deposited crystals on the sides and bottom of the bottle and when the clear decanted acid was analysed on Jan. 17th, 1901, it contained only 1·12 per cent. of arsenious oxide, the rest having been deposited in the form of prisms, presumably rhombic. When these crystals were placed under the microscope, moist with oil of vitriol as they were, and a drop of water was added to dilute the oil of vitriol, the crystals cleaved into octohedra with flat sides, while some dissolved in the hot acid. On leaving the crystals they gradually grew, especially on the flat sides, and in two hours they were large and perfect octohedra. Other samples analysed in 1901 contained 1·32 per cent. of arsenic, including crystals deposited, 2·36 per cent., 2·24 per cent., and 2·6 per cent. All selenium was removed, as well as other impurities, before weighing the arsenic. Every article contained selenium, but only in very small quantities. The average was probably about 0·025 per cent. His search for selenium in the sugars was an after-thought, and it was not very perfect and he did not find it. He added a small quantity of selenium to a sugar and on analysing the sugar he found that. He did not wish to be positive about selenium in the sugars because his examination for it was not a crucial one. He would not be prepared to go into the witness-box and swear that there was no selenium in the sugars. The city of Liverpool was completely cleared of beer made from Bostock's sugar before Dec. 18th, and in the county of Lancaster only a few samples here and there were found after that date. But still arsenic did not disappear from the beer sold even by perfectly reliable houses whose

beer was made from no other materials than malt and hops. It became necessary to trace the source of these smaller quantities of arsenic. The barrels, vats, pipes, and other plant of the breweries had been cleaned and were found to be quite free from arsenic. Hops and finings and other incidental materials were found to be free from arsenic. Yeast was found to be always very slightly arsenical. In some instances yeast was obtained specially from a very large brewer in the midlands brewing solely from malt and hops, and still the beer made with it was arsenical. A sample of that yeast was found to be as highly arsenical as Liverpool yeast which had been in contact with some of Bostock's sugar. Beer from the brewery before being fined, and before the last proportion of hops was added, was found to be more arsenical than the finished beer. This was usually the case when the quantity of arsenic was small, but yeast and hops did not appreciably purify more highly arsenical beer. Very large quantities of arsenic broke down the yeast cells. In slight cases the yeast and the hop residues from which the beer was drained off were found to contain some arsenic even when the finished clarified beer as sold contained practically none. Hops were found to be free from arsenic, the exceedingly minute trace suspected in one case being too small to be identified. The arsenic was in all cases investigated clearly traced to the malt. The malt used was found to contain more arsenic than the finished beer made from it. A sample of beer made from good malt which had been dried with the best fuel was found to contain as much as one-twelfth of a grain of arsenic per gallon before racking. This whole brew was destroyed. Another sample was made from very similar malt but not analysed until it was ready for sale, and it contained only one-seventieth of a grain per gallon. Beer made from partly cleaned malt contained one-thirtieth of a grain per gallon. Barley for malting was obtained from the ship and from the quay and from the storehouse before malting, and was found to be free. Malt from Scotch and English barley, and from Asia Minor, North and South America, and other places always contained arsenic. This arsenic was traced to the fuel. The quantity of arsenic in malt from good fuel was usually one-fifteenth of a grain per pound. If recent events were followed by legislation it seemed undesirable to legislate for beer alone, which would be well looked after now that it was known to be liable to contain arsenic, and to leave out of account all the other things, known or unknown, which were liable, or would in the future be liable, to be in some way contaminated with other things. Any new legislation should aim at securing immunity from contamination for all kinds of food and drink. Considering the fact that the use of arsenical glucose was the result of combined ignorance and carelessness, that it was immediately stopped when discovered, and that it was not likely ever to occur again, and considering also that arsenic was exceedingly likely to get into beer from malt, and that, in fact, minute traces were very seldom absent, it would be vain to prohibit the use of glucose and invert sugar for the purpose of preventing arsenication of beer. The question of permitting or prohibiting the use of sugars must be settled on entirely different grounds. He supposed that the Inland Revenue officers could deal at present with both glucose and malt; the local inspectors under the Sale of Food and Drugs Acts could do so, but they could only take samples as they were delivered to the brewer, and with his consent. They could not go to the maltster or his coke merchant or to the sulphuric acid maker, nor could they take samples of coke or of sulphuric acid even as they were delivered to the maltster or glucose maker. In his opinion they ought to have this power. Legislation was necessary to make it compulsory for manufacturers to test every bulk or batch sent out of any article which was to be used in the preparation, manipulation, conveyance, or storage of any food for any impurity which would impair the wholesomeness of such food. The manufacturer might be presumed to know the use to which the thing he sold was put unless he showed that he could not reasonably be expected to find out. Legislation was also necessary to enact that if any article was sold for use in the preparation, &c., of any food there should be implied a warranty that it was free from all ingredients which would impair or injuriously affect its wholesomeness.

The Commission then adjourned.

SATURDAY, MAY 4TH.

The Commission held another meeting to-day in the Westminster Palace Hotel, Lord KELVIN presiding.

Mr. THOMAS WATSON LOVIBOND, managing director of the Newcastle Breweries, Limited, and ex-chairman of the Country Brewers' Society, was the first witness examined. He said that he looked upon sugars and other adjuncts as absolutely necessary for modern brewing. If they were properly chosen they improved the quality of the beer and in some cases they contributed to economy. By their use he had been enabled at Newcastle to turn out good light beer in very much less time than was the custom of the trade formerly—in a fortnight or three weeks at the longest. Foreign barley was the one substitute which they could look to in the absence of what were commonly called adjuncts. Except the very finest, English barley was not fitted for use by itself. Therefore the English barley-grower would not benefit by the prohibition of brewing sugars. Speaking on behalf of the trade, he said that they would welcome any recommendation which would safeguard the public, for such recommendation would also protect the brewer. According to the returns of September, 1899, there were 6798 brewers in England and Wales, and of these nearly 5000 were practically publican brewers. Of the remaining 1800 about 300 were very small brewers. The statement was constantly being made that the great majority of the brewing trade did not use adjuncts. It was intended to convey the idea that the use of adjuncts was in a minority of quantity, whereas it was only in a minority of numbers, because these 5000 publican brewers represented only 3·8 per cent of the total brewing materials used in England and Wales. It was the publican brewers who used brewing sugars to a very small extent, while few of the important brewers did not use them. In the case of his own company they had analysed very carefully all their materials and products and they had found arsenic only in one case, and that was in a sample of malt dust, which, of course, did not go into the beer. They used for drying the malt a high class of oven coke which was found to be free from arsenic. They had given up glucose for a good many years and the only adjuncts they now used were inverted cane sugar and maize grits. They inverted the former by means of yeast and the latter by natural diastatic conversion. They gave up using sulphuric acid because it was a dangerous and unpleasant material to have in a brewery and because they found a better method of conversion. He quite admitted that makers of invert sugar upon a large scale must use sulphuric acid, but he said that they must be careful as to its quality and must see that it was properly removed; they must take upon themselves the arrangements and the risks. A good deal had been said in condemnation of the tied house system, but in his opinion it had contributed greatly to the public advantage in the work of dealing with the recent epidemic of poisoning. His idea of the kind of precaution that should be taken was that manufacturers should be held legally responsible for each article they manufactured.

Mr. THOMAS EARP, of Messrs. Gilstrap and Earp, maltsters, Newark-on-Trent, said that until the discovery of the effects of using glucose was made he never heard of any injury whatever arising from the use of malt and when the inquiries were instituted which led to the suspicion that malt might be a contributory cause of danger in the production of beer his firm at once submitted samples of malts and subsequently of cokes and coals for analysis. The opinion gaining ground that coal was a safer material to use than coke or a mixed fuel, they at once used coal only, which they had continued to do. Witness submitted a statement which, he said, proved conclusively that coal might be regarded as the best and purest fuel at present.

Mr. LAWRENCE BRIANT, brewers' chemist, London, said that since the end of November, 1900, he had examined for arsenic considerably over 2000 samples of beer and brewing materials. He was requested by the chemical manufacturing section of the Brewery Traders' Association to make inquiries on their behalf into the presence of arsenic in their manufactures and the precautions taken to prevent such contaminations. With this object he had visited the works of the firms connected with the association which, whilst not including absolutely the whole of the firms supplying brewers with preservatives, &c., was certainly representative. The method of analysis adopted by him was that of Marsh, though he had also examined a large number of samples by the Reinsch test. By the Marsh test he was able to detect with ease the presence of 0·01 milligramme of arsenious oxide, and when he spoke of substances as free from arsenic he meant that no arsenic could be found by a test of this delicacy when operating upon about 50 grammes of the substance under examination. The substances into which he had made special inquiry were hardening materials, antiseptics, finings, caramelised preparations, and yeast foods. The hardening of the brewing waters was extensively carried out. The following materials were used, the proportions given being the maximum generally added—viz., sulphate of lime, 50 grains per gallon; sulphate of magnesia, 10 grains; chloride of calcium, 20 grains; chloride of sodium, 50 grains; potassium sulphate or chloride, 15 grains; and kainit, 50 grains. Excepting caramel, the largest amount of arsenic which could be introduced into beer by any of these substances which he had examined could be only 0·0002 of a grain per gallon. The worst sample of caramel which he had examined could not introduce more than one-four-hundredth of a grain per gallon of arsenic. The yeast foods used by brewers were of two descriptions—phosphatic and nitrogenous. Phosphatic yeast foods consisted of the phosphates of potash and ammonia, in some cases mixed with malt, pea, or bean flour. The amount used was about 1 lb. per 30 barrels. He had in two samples of such food found traces of arsenic, probably about 0·02 milligrammes per 50 grammes, but in view of the very small quantity which was used this amount would not be very serious. Practically all the phosphatic yeast foods now supplied to brewers were free from arsenic. The small amount of arsenic which was present in some was due to the difficulty which existed in procuring phosphates which were absolutely free from arsenic. Nitrogenous yeast foods were made in some cases from malt rootlets, in others from some nitrogenous material, the source of which he did not know. Malt rootlets had been found to contain arsenic, but for the purpose of preparing nitrogenous yeast foods care had to be taken to use only certain classes of malt culms, and he found that in every case malt culms alone had been used which had been dried by anthracite. No malt culms derived from malt dried with gas coke had ever been used. The amount of nitrogenous yeast food added was one pint of the liquid to 20 or 30 barrels, sometimes considerably less. Such a small amount could not introduce arsenic, though these yeast foods were for all practical purposes arsenic free.

On the conclusion of Mr. Briant's examination the Commission adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BAIN, JAMES GORDON, M.B., C.M. Glasg., has been re-appointed Honorary Medical Officer to the Wellington (Somerset) Cottage Hospital.

BOWKER, C. V., M.B. Syd., has been appointed Medical Superintendent, the Sydney Hospital, New South Wales, vice W. C. McClelland, resigned.

BOYD, JOHN J., M.B. Glasg., D.P.H. Camb., has been appointed Medical Officer of Health to the County Borough of South Shields.

BREWERTON, ELMORE, F.R.C.S. Eng., has been appointed Ophthalmic Surgeon to the Metropolitan Hospital.

BRIERLEY, T. B., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Tattenhall District of Cheshire.

BROWN, GRANGER C., M.R.C.S., L.R.C.P. Edin., has been appointed Honorary Medical Officer to the Holloway and North Islington Dispensary, vice J. R. T. Conner, resigned.

BROWN, H. E., M.B., Ch.B. Glasg., has been appointed Assistant Medical Officer, Southstone Asylum and Poorhouse, Greenock, vice M. Macdonald, resigned.

BUTLER, G. H., L.R.C.P. Lond., M.R.C.S., has been appointed a Member of the Southern Tasmanian Board of Dental Examiners.

CARGILL, W. D., M.B., M.Ch. Syd., has been appointed, *pro tem.*, Medical Officer at Roma, Queensland.

CHESSON, HERBERT, L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Superintendent to the Hospital for the Insane at Goodna, Queensland.

COAD, S. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the North District of Luton.

CORBIN, A. G., M.B. Syd., B.Sc., has been appointed Senior Resident Medical Officer, Sydney Hospital, New South Wales.

CREED, J. M., L.R.C.P. Edin., M.R.C.S., has been appointed a Trustee of the Public Library of New South Wales.

DODS, J. E., M.B., B.S. Edin., has been appointed, *pro tem.*, Health and Medical Officer at Brisbane, also Visiting Surgeon to the Prison at Brisbane, the Penal Establishment at St. Helena, the Fortitude Valley Police Gaol, the Dunwich Benevolent Asylum, and the Lock Hospital at Brisbane.

FENDICK, MAUDE E., L.S.A., has been appointed Assistant House Surgeon to the North Riding Infirmary, Middlesbrough.

FINLAY, WILLIAM, M.D., L.R.C.P., L.R.C.S. Edin., has been appointed Officer of Health for the Shire of Tungamah, Victoria, Australia.

FOX, J. R., M.B. Melb., has been appointed Public Vaccinator for Stawell, Victoria, Australia.

GMELIN, O. F., M.D. Leipz., has been appointed Officer of Health for the Shire of Ritham, Victoria, Australia.

GROSVENOR, RANDOLPH L., B.A. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Physician to the Chelsea, Brompton, and Belgrave Dispensary, Sloane-square, S.W.

HEDLEY, W. T., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Hallaton Rural District of Leicestershire.

HILLYAR, CECIL BISSHOPP, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been re-appointed Honorary Surgeon to the Wellington (Somerset) Cottage Hospital.

HUMPHRY, ERNEST, L.R.C.P. Lond., M.R.C.S., has been appointed Visiting Medical Officer to the Townsville State Orphanage, Queensland.

JAMIESON, SYDNEY, M.B., Ch. M. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed Lecturer on Pathology at the University of Sydney, New South Wales.

JONES, WILLIAM WATKINS, M.D., C.M. Edin., D.P.H. Cantab., has been re-appointed Medical Officer of Health for the Gelligaer and Rhigor Rural District Council, South Wales.

JONES, W. W. S., L.R.C.P.C.P. Irel., L.R.C.S., has been appointed Vaccinator for Glamorgan, Tasmania.

LEIGH, A., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Malpas District of Cheshire.

LONERGAN, T. J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Officer of Health to the Southern Cross Local Board of Health, West Australia.

MALIN, J. W., B.A., M.B., B.C., has been appointed Casualty House Surgeon to the General Hospital, Bristol.

MARTIN, A. P., M.B., Ch.B. Vict., has been appointed Assistant House Surgeon to the General Hospital, Bristol.

MATHEWS, C., M.R.C.S., has been appointed Medical Officer for the Atherington District by the Barnstaple Board of Guardians, vice F. T. Andrews, resigned.

MEREDITH, JOHN, M.D. Edin., L.R.C.S., has been re-appointed Honorary Medical Officer to the Wellington (Somerset) Cottage Hospital.

MINCHIN, E. J., L.K.Q.C.P. Irel., L.R.C.S., has been appointed Public Vaccinator for Portarlington, Victoria, Australia.

MORETON, T. W. B., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Tarvin District of Cheshire.

OPIE, EDWARD AUGUSTUS, M.B. Durh., M.R.C.S., has been re-appointed Honorary Medical Officer to the Wellington (Somerset) Cottage Hospital.

O'REILLY, V., M.B., B.Ch. Irel., has been appointed Certifying Surgeon under the Factory Acts for the Civil Parish of Parbold, in the Wigan District of Lancashire.

PENNY, H. J., L.K.Q.C.P. Irel., L.R.C.S., has been appointed Vaccinator for Scottsdale, Tasmania.

POLLARD, W. R., M.R.C.P. Edin., L.R.C.S. Irel., has been appointed Medical Officer and Public Vaccinator, No. 2 District, Blackburn Union.

PRAAGST, G. D., M.B. Melb., has been appointed Public Vaccinator for Murchison, Victoria, Australia.

PRENDERGAST, J. J., M.D. Irel., L.R.C.P. Edin., M.R.C.S., has been appointed Vaccinator for Kelly Basin, Tasmania.

PRING, ARTHUR, L.R.C.P. Lond., has been appointed Medical Officer at Beaudesert, Queensland.

READ, CLARENCE, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer, North Shore Hospital, Sydney, New South Wales.

RENTON, M. W., M.B., C.M. Aberd., has been appointed Medical Officer with the Medical Corps in South Africa.

ROE, JAMES M., M.B. Syd., has been appointed Medical Officer at Mareeba, Queensland.

SAIGOL, R. D., L.M. & S. Punjab, L.R.C.P. & S.E., has been appointed House Surgeon to the Birmingham and Midland Eye Hospital.

SKINNER, G. H., L.R.C.P. Lond., M.R.C.S., has been appointed Vaccinator for Gormanston, Tasmania.

SPRING, WM. A., M.B., Ch.B. Melb., has been appointed Officer of Health for the Shire of Traralgon, Victoria, Australia.

STACY, H. S., M.B., Ch.B. Syd., has been appointed Resident Pathologist, Sydney Hospital, New South Wales.

STRAHAN, E. A., M.B. Melb., has been appointed Public Vaccinator for Korumburra, Victoria, Australia.

THOMAS, G. H. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer at Chillagoe, Queensland.

TRENOW, N. A. A., L.R.C.S. Irel., L.S.A. Lond., has been appointed Medical Officer at Croydon, Queensland.

WILKINSON, W. C., M.D. Lond., M.R.C.P. Lond., M.R.C.S., has been appointed Lecturer on Medicine at the Sydney University, New South Wales.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNWOOD HOUSE HOSPITAL FOR THE INSANE, Gloucester.—Junior Assistant Medical Officer. Salary £150 per annum (rising to £170) with board, &c.

BEDFORD COUNTY HOSPITAL.—House Physician. Salary at rate of £80 per annum, with board, lodging, and washing provided.

BETHLEM HOSPITAL.—Two Resident House Physicians for six months. Honorarium at the rate of £12 12s. each per quarter, with apartments, board, and washing.

BIRKENHEAD UNION.—Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM GENERAL DISPENSARY.—Resident Locums for two to three months. Terms 4 guineas per week, with furnished apartments.

BOROUGH OF HAMPSTEAD.—Medical Officer of Health. Salary £600 per annum.

BOROUGH OF SOUTHEND-ON-SEA.—Medical Officer of Health. Salary £400 per annum, rising to £500 per annum.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon, single. Salary £100 per annum, with board and residence.

BURY INFIRMARY.—Senior and Junior House Surgeon. Salary, Senior £110, Junior £90, with residence and attendance.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £110 per year, with board, apartments, and laundress.

CHORLTON-UPON-MEDLOCK DISPENSARY, Manchester.—Resident House Surgeon, unmarried. Salary £150 per annum, with furnished rooms and attendance.

COUNTY ASYLUM, Prestwich, Manchester.—Assistant Medical Officer, unmarried. Salary £150 per annum, increasing to £250, with board, apartments, and washing.

COUNTY BOROUGH OF SOUTHAMPTON.—Assistant Medical Officer of Health. Salary £150 per annum, with residence and board.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician for six months. Honorarium £25, with board, residence, &c.

GENERAL INFIRMARY, Leeds.—Resident Obstetric Officer for six or twelve months. Also House Surgeon for twelve months. Also House Physician for six months. Board, lodging, and washing provided in each case.

GOVAN DISTRICT ASYLUM, Crookston, near Paisley.—Junior Assistant Medical Officer. Salary £120 a year, with rooms, board, laundry and attendance.

GREAT NORTHERN HOSPITAL, Holloway-road, N.—Casualty Officer for six months with eligibility for re-appointment. Salary at the rate of £52 10s. per annum.

GROVE HALL ASYLUM, Bow, London, E.—Junior Assistant Medical Officer. Salary £120 a year, with board, apartments, attendance, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

HULL ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £80, with board and lodging.

JARROW MEMORIAL HOSPITAL.—House Surgeon, unmarried.

KENT COUNTY OPHTHALMIC HOSPITAL, Maidstone.—House Surgeon. Salary £100, with board and lodging.

LIVERPOOL HOSPITAL FOR CONSUMPTION.—Non-resident Medical Officer. Salary £70 per annum.

LIVERPOOL STANLEY HOSPITAL.—Third House Surgeon. Salary £70, with board, residence, &c.

METROPOLITAN ASYLUMS BOARD.—Six Assistant Medical Officers, unmarried, at the Fever and Small-pox Hospitals. Salary £160 per annum, rising to £200, with board, lodging, attendance, and washing.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer. Salary £80 per annum, with board, attendance, and washing.

NEW HOSPITAL FOR WOMEN.—Two Resident Medical Officers; also a Clinical Assistant and a Pathologist. All females.

NORTHAMPTON GENERAL INFIRMARY.—Honorary Ophthalmic Surgeon. Also Honorary Assistant Surgeon.

NORTH LONDON HOSPITAL FOR CONSUMPTION, Hampstead.—Junior Resident Medical Officer. Honorarium, £60.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer. Also Assistant Resident Medical Officer, both for six months. Salary at the rate of £50 per annum, with board, residence, and washing.

NOTTINGHAM GENERAL INFIRMARY.—Senior Resident Surgeon. Salary £200 per annum, increasing by £15 every year. Also two Assistant Resident Surgeons. Salaries £160 per annum each, increasing by £10 every year, furnished apartments, attendance, light, and fuel. Unmarried.

PARISH COUNCIL OF APPLECROSS, Loch Torridon District.—Medical Officer and Vaccinator. Salary £95, free house accommodation and other emoluments.

PARISH OF FULHAM.—Second Assistant Medical Officer. Salary £80 per annum, with board, furnished apartments, and washing.

PARISH OF ST. MATTHEW, Bethnal-green.—Clinical Assistant, unmarried, for the Infirmary at Cambridge-road, N.E., for three months, with possible extension. Salary at the rate of £80 per annum, with board, lodging, and washing.

QUEEN'S CENTRAL HOSPITAL, Cradock, Cape Colony.—House Surgeon and Secretary, unmarried. Salary £150 per annum, with board, lodging, and washing.

ROXBURGH DISTRICT ASYLUM, Melrose, N.B.—Assistant Medical Officer. Salary £130 per annum, with board, lodging, and washing.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months, with board, lodging, and washing. Salary at the rate of £50 per annum.

ROYAL BERKS HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £50 per annum, with board, lodging, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

ROYAL SEA BATHING HOSPITAL, Margate.—Assistant Resident Surgeon. Salary £60 per annum, with board and residence.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, West Strand, W.C.—Clinical Assistants for six months.

ST. MARYLEBONE INFIRMARY, Notting-hill, W.—Second Assistant Medical Officer. Salary at the rate of £80 per annum, with board, &c.

SHEFFIELD ROYAL HOSPITAL.—Junior Assistant House Surgeon, unmarried. Salary £50 per annum, with board (exclusive of wine and beer) and lodgings.

SOMERSET HOSPITAL, Cape Town.—Senior Resident Surgeon. Salary £400 per annum, rising to £500, quarters and rations. Free passage to Cape Town.

STOCKPORT INFIRMARY.—Assistant and Visiting House Surgeon. Salary £70, with residence, board, and washing. Also Junior Assistant House Surgeon for six months. Salary at rate of £24 per annum, with board, washing, and residence.

THE CHIEF INSPECTOR OF FACTORIES gives notice of Vacancies for Certifying Surgeons under the Factory Acts at Elgin, in the county of Elgin; at Holyhead, in the county of Anglesey; at Brownhills, in the county of Stafford; at Crosshills, in the West Riding of the county of York; and at Darvel, in the county of Ayr.

THROAT HOSPITAL, Golden-square, W.—Junior House Surgeon (non-resident). Salary at the rate of £100 per annum and lunch daily.

TOWCESTER UNION.—District Medical Officer and Public Vaccinator. Salary £60 per annum, with allowances.

WEST HAM BOROUGH ASYLUM.—Senior Assistant Medical Officer. Salary £200, rising by £25 annually to £250. Also Junior Assistant Medical Officer, salary £150, rising by £25 annually to £200. Board, furnished apartments, and washing provided.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon. Salary £75 per annum, with board, residence, &c.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—Medical Officer. Salary £100 per annum, with board, lodging, and washing.

WREXHAM INFIRMARY.—House Surgeon. Salary £100 per annum, with board and washing.

Births, Marriages, and Deaths.

BIRTHS.

DEVEREUX.—On May 5th, at North House, Tewkesbury, the wife of William C. Devereux, M.A., M.B., of a daughter.

FEGAN.—At Old Charlton, Kent, the wife of R. Ardra Fegan, M.R.C.S., L.R.C.P., of a daughter.

FITCH.—On April 29th, at Church Gate House, Chaddesley Corbett, Kidderminster, wife of Dennis Fitch, M.R.C.S., of a son.

MAWBY.—On April 21st, at Mow Fen Hall, Littleport, the wife of F. Wilkders Mawby, Surgeon, of a daughter.

MERCER.—On May 3rd, at Waterloo-road South, Wolverhampton, the wife of W. Stainton Mercer, M.R.C.S., L.R.C.P. Lond., of a daughter.

PRALL.—At Rawalpindi, Punjab, India, on the 24th of April, the wife of Captain C. B. Prall, Indian Medical Service, of a daughter.

RITCHIE.—On May 7th, at Beaumont-street, Oxford, the wife of James Ritchie, M.D., of a daughter.

MARRIAGES.

HACKNEY—WATTS.—On April 30th, at the parish church, Bromley, Kent, Alfred Clifford John Hill Hackney, L.R.C.P. Lond., M.R.C.S., of Hythe, Kent, to Ellen Lilian, elder daughter of James Watts, Bromley, Kent.

HUTCHINSON—WALLEY.—On April 30th, at St. Matthew's Church, Oakley-square, N.W., Donald H. A. Hutchinson, M.D., Lowestoft, to Constance E. Walley, second daughter of the late Thomas Walley, Principal of the Dick Veterinary College, Edinburgh.

MORITZ—BENNETT.—On May 4th, at Christ Church, Crouch-end, Arnold Moritz, M.B. Cantab., eldest son of Hermann Moritz, of West Bank, Highgate, to Constance Edith, second daughter of Charles Bennett, of Avenue-road, Highgate, N.

PRESTON—BOWKETT.—On May 8th, at Emmanuel Church, West Hampstead, by Rev. R. W. Pownall, M.A., Francis H. Preston, M.A., M.R.C.S., of Plumstead, to Hilda E. Bowkett, daughter of the late Thos. E. Bowkett, M.R.C.S.

DEATHS.

HARTREE.—At Cranmer-road, Cambridge, John Penn Hartree, M.A., M.D., aged 57.

WALLIS.—On May 6th, at High-street, Colchester, William Beale Wallis, Brigade Surgeon late 74th Highlanders, aged 71.

WATTS.—On May 5th, at Shanklin, the Rev. Ernest Henry Richmond Watts, M.A., M.B. Cantab., Assistant Master St. Paul's School, of Russell-road, Kensington, aged 41.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

UNQUALIFIED MIDWIFERY.

THE body of a woman named Esther Cain was interred in Thornley (Durham) churchyard on April 20th last, the certificate being signed by "W. H. Ryott" and the cause of death specified as "parturition collapse." An order for disinterment, however, was received last week and an inquest was held by the coroner, Mr. Maynard, subsequently to a post-mortem examination conducted by Dr. Hugh Russell of Trimdon Grange, Mr. J. Arthur of Wingate, and Mr. G. C. Murray of Durham, the last-named gentleman acting on behalf of Ryott. At the inquest the husband of the deceased woman, an overman, stated that his wife was 35 years of age and the mother of nine children. Early on the morning of April 17th she sent witness for Mr. Ryott to attend her confinement and that gentleman came back and forward the whole day. Later in the day a second practitioner, who used to be an assistant in the neighbourhood, was called in. Witness then asked the two gentlemen if they were able to manage the case, and Ryott replied that if they could get some instruments from a medical man at Sherburn Hill they could manage. The instruments were obtained, but between two and three o'clock on the morning of the 18th they told him to go for more assistance. He went for another practitioner, but upon returning with that gentleman his wife was dead. A fortnight or three weeks before, when the deceased chose Mr. Ryott to attend her witness warned her to be particular and to ask him about his qualification. Ryott told her that he was qualified to sign any paper.—Margaret Calvert, a neighbour, said that on the night of the 17th the deceased asked Ryott to give her chloroform, but he said that he dare not unless someone else was present to assist him in administering the anæsthetic. The deceased next asked Ryott to use instruments and he did so, but they were too short. Witness could not say if the longer instruments sent for were ever used. About 2 A.M. on the 18th Ryott again went for the practitioner who first came to his assistance. The two were with the patient about 20 minutes and then they left. Shortly after the deceased gave a shout, gnashed her teeth, and expired. During the day she only had a few drops of tea. Ryott gave her a black liquid several times which seemed to ease the pain and he also administered a white powder which he said was to make her sleep. They did not notice any bleeding until after the short instruments were used and then it was very slight.—Dr. Hugh Russell deposed that he made a post-mortem examination on April 25th, assisted by others. The body was well nourished. The left eye was slightly congested and there was a redness below both eyes. The breasts contained milk. The child was found to be a female. There were marks of compression upon the chin, the mouth, and the upper part of the chest, while there were two bruises on the back and side of the head an inch square. The inner part of the scalp was also bruised and the brain was soft. There were signs of considerable pressure on both the upper and lower limbs. In his opinion the woman's death was due to uterine rupture, and the signs of strong compression on the face and chest of the child led to the conclusion that the rupture was caused spontaneously. The fracture of the child's skull was due either to instruments or to pressure of the fingers. He himself would have delivered the deceased long before death had occurred and her life would have been saved as well as that of the child in all probability. There was incapacity in the delivery of the woman and the long delay was the cause of death. She ought to have been safely delivered before noon on the 17th. The child, he thought, had not water on the brain and she died shortly before the mother. Under the circumstances to give ergot of rye was most improper and when the deceased asked for chloroform it was a right and proper thing for her.—Mr. James Arthur corroborated the previous witness. Roughly speaking the patient had been left undelivered 12 hours longer than she ought to have been. In answer to the solicitor appearing on behalf of Ryott, witness said that there would be some difficulty to an ordinary medical man in the case.—Mr. George Campbell Murray of Durham, called as a witness for Ryott, agreed with the evidence of Dr. Russell and Mr. Arthur, except that he was of opinion that there was hydrocephalus. He thought that the mother's life might have been saved had it been known that hydrocephalus was present.—An hour and three-quarters' deliberation resulted in the jury returning the following verdict: "That the said Esther Cain came to her death by not being delivered of a female child through an error of judgment, want of skill, and neglect in not calling in a medical man sooner, but not sufficient to find William Harry Ryott guilty of manslaughter; but we are unanimously of opinion his practising in this way should be at once abandoned."

CHILDREN AND ALCOHOL.

THE terrible evils resulting from the alcoholic habit being acquired by children were strikingly exemplified in a letter addressed by Sir Thomas Barlow to the members of the United Kingdom Band of Hope Union and read at their recent meeting held in Exeter Hall. As Sir Thomas Barlow truly said, it is immensely difficult to give

statistics proving that there is an appreciable amount of actual disease caused in children by the administration of alcohol. But it is easy to give illustrations showing that this does occur and the most notable example quoted by Sir Thomas Barlow was that of an infant who died when she was 12 months old. She was the subject of gin-drinker's liver in the most aggravated and typical form. The mother had given this child small quantities of gin and beer for a considerable part of her short life. Not the least interesting portion of Sir Thomas Barlow's letter was the explanation which it contained of his views on the question of heredity in alcoholism. It has been lately maintained that alcoholism and alcoholic habits are not in a true sense hereditary. But even if they are not handed on by direct transmission it was surely a matter of common experience that in some families one member after another succumbed to alcoholism. If this was brought about by the bad example of the parents and by habits of "tippling" induced in early life in a household where drinking was common the net result was just as disastrous as if it were a specifically inherited tendency. Nobody would deny the terrible risk of alcoholism in families where the different members manifested some form of defective nerve control, as, for example, perversion of moral sense, or eccentricity of behaviour, or actual insanity or hysteria. Dr. W. J. Collins, who was the chairman of the meeting, said that the London County Council had in spite of opposition persisted in a policy of temperance and had endeavoured to dissociate enjoyment, recreation, and amusement from the possible dangers of the drink traffic. In dealing with the question of the monopoly of drink he thought that the justices of the peace had entirely failed to do their duty. Mr. A. Pearce Gould considered that not only did alcohol find no place in the proper dietary, home life, and training of a child, but that it was distinctly harmful. If they were to keep in view the rearing of a strong race they must put alcohol away. Professor Sims Woodhead, writing from Cambridge, pointed out how alcohol, when acting on fully-developed tissues, produced sufficiently dire results, but that its effects on the actively growing and developing tissues of a child were most disastrous. The child who was taking alcohol could never be in perfect health. Amongst the speakers at the meeting were Mr. W. McAdam Eccles and Dr. T. Bushbrooke.

SEBORRHŒA.

To the Editors of THE LANCET.

SIRS,—May I ask advice as to how to treat a typical case of loss of hair with much formation of scurf and a dry scalp? My patient has persevered for weeks with a lotion which I ordered him (two grains of resorcin, five minims of castor-oil, and one ounce of rectified spirits of wine), and his scalp must by this time be thoroughly aseptic, but the scurf is as plentiful as ever.

I am, Sirs, yours faithfully,

May 8th, 1901. S.

LIFE AND WORK IN THE TROPICS.

IN an address delivered at the Church Missionary House on Feb. 22nd and published in the May number of the *Church Missionary Intelligencer*, Dr. Herbert Lankester has offered a few suggestions founded on his experience gained during many years connexion with the work of foreign missions. He reminded his hearers that with the exception of North Japan and North-West America all the Church Missionary Society's stations were situated in tropical or sub-tropical regions and under these conditions the work entailed much train, both physical and mental. The physical difficulties were connected with the high temperature, the unaccustomed food, and the special tropical diseases, of which he instanced malaria, dysentery, sprue, and cholera. Mental breakdown, manifested by loss of memory and inability to think, was unfortunately too often met with; the causes were overwork and responsibility, home sickness, contact with suffering, and, especially among ladies, the dread of a language examination. He assured his audience that a spirit of devotion counted for much in the preservation even of bodily health, and in addition he advised them when in the tropics to take plenty of exercise; to sleep with open windows; to have a cold, or at any rate a relatively cold, bath every morning if possible; not to study when tired; to go to bed early and to get up early; to eat simple food taken at regular meals; to learn to cook; to avoid worry and hurry; and to cultivate a useful hobby, such as photography or carpentry.

"THE EFFECTS OF THYROIDIN."

To the Editors of THE LANCET.

SIRS,—"K. E. M." gives the symptoms of a case in THE LANCET of April 27th, p. 1250, as a result of excessive doses of thyroidin. I suffer from identical symptoms and I did not take a single molecule of thyroidin in my life. I had dysentery followed by internal hæmorrhoids and prolapsus ani to an increasing extent. I took strychnia for some time until the smallest dose would produce spasms of the diaphragm and facial muscles. The smallest quantity of alcohol, even that in a bottle of ginger ale, produces neuralgic pains in the legs, especially in the left, and singing in the ears; I am prone to the tottering gait and great pains in the lower limbs in the evening after walking, becoming severe as I lie on a sofa or bed. I had the prolapsus operated on successfully, and still the symptoms continue. I find five grains of Dover's powder and five grains of antipyrin at night give relief. Bromide makes me worse though giving evanescent ease. I, too, increased in weight from 11 stones to 13 stones 5 pounds, and reduced it by walking to 12 stones. I attribute the affection to congestion of the nervous system. I suffer from intermittent heart and sleeplessness. Digitalis, strophanthus, and ext. ergotæ, guttæ duæ of each, have a beneficial effect. I am, Sirs, yours faithfully,

West Kingstown, May 2nd, 1901. JOHN HOCHE, M.D. R.U.I.

MILITARY MEDICAL OFFICERS' UNIFORM.

DURING the eighteenth century the organisation of the military medical department was the subject of various royal ordinances in France, but it was not until 1757 that Louis XV. granted the officers a distinguishing uniform. According to Dr. G. Fargin, who discovered his authority in the Nancy library among the manuscripts which were bequeathed to that institution by M. Guerrier de Dumast, the original *arrêté* communicated to the army was couched in the following terms:—

"On the account which I furnished to the King of the representations made to me by M. de la Martinière and by the Sieur Desports, surgeon-major of the army of Westphalia, concerning the necessity of giving a uniform to the surgeons employed in the army, to the end that they may be recognised on the day of battle and under other circumstances when there may be urgent need of their services, His Majesty desires that they should cause one to be made in conformity with the attached *mémoire*. I pray you to give them your orders on that and to inform the commandants of regiments with the army in Westphalia of what has been ruled for their surgeon-majors. It is necessary that the garments should be of the colour of the patterns which I send you, so that they may not be like those worn by Commissaries and officers of the Line.

I am very perfectly, Monsieur, your very humble and very obedient servitor, R. DE ROYER DE PAULMY."

The *mémoire* alluded to, which is endorsed "Fait à Compiègne, le 15 Juillet, 1757," contains explicit instructions regarding the confection of the surgeon's uniform. The coats were to be *gris d'épine* in colour with red facings, their shape was to be *en surtout*, and they were to be fitted with long pockets. The breeches and vests were to be red, while all buttons were to be of gold thread. Surgeon-majors with sumptuous proclivities could further adorn themselves with gold lace, but if of frugal mind they were permitted to replace it with plain braid.

P. M.—If the patient died after admission to the hospital the coroner can order a post-mortem examination to be made without any fee. Whether the house surgeon is legally entitled to a fee for his attendance is doubtful, but he never receives such a fee.

H. J. H.—The address of the General Medical Council Offices is 229, Oxford-street, London, W. If our correspondent will communicate with the registrar he will be informed as to what steps should be taken. There is a small fee.

Cymro will find at page 647 of the last Students' Number of THE LANCET, published on Sept. 1st, 1900, a full answer to his question.

ERRATUM.—In the report of the meeting of the Clinical Society held on April 26th (THE LANCET, May 4th, p. 1276) the observations on Dr. Lee Dickinson's case attributed to Dr. A. G. Phear were not made by that gentleman. The observations on Dr. Percy Kidd's case attributed to Dr. W. Forbes Ross were made by Dr. A. G. Phear.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 9th, 1901.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 3	30·33	ENE	...	112	70	47	49	51	Cloudy
,, 4	30·33	ENE	...	101	62	43	46	49	Cloudy
,, 5	30·10	S.E.	...	95	62	44	47	48	Overcast
,, 6	29·60	N.E.	...	72	55	46	45	48	Overcast
,, 7	29·28	S.	0·04	102	58	44	47	51	Cloudy
,, 8	29·34	N.W.	0·27	73	52	42	42	43	Overcast
,, 9	29·74	N.E.	0·09	101	56	43	47	48	Overcast

During the week marked copies of the following newspapers have been received:—*Burnley Express, Cardiff Weekly Mail, Lloyd's Newspaper, Devon Weekly Times, Hampshire Independent, Blackburn Telegraph, Glasgow Times, East London Observer, Oxford Times, Bradford Telegraph, Carlisle Journal, Middlesex County Times, Tooting Herald, Bristol Mercury, Darlington Star, Liverpool Daily Post, Manchester Guardian, Kent Courier, Rochdale Observer, Lincolnshire Chronicle, Essex Herald, Dundee Advertiser, Sheffield*

Daily Telegraph, Citizen, Scotsman, Hull Morning News, Pioneer Mail, Sussex News, South Wales News, Builder, South African News, Architect, Midland Daily Telegraph, Nottingham Daily Guardian, Sunderland Echo, Harborough Advertiser, Whitehaven Advertiser, Spalding Free Press, Evesham Standard, Irish Times, Lowestoft Standard, Thanet Times, Public Health, Hertfordshire Mercury, City Press, Reading Mercury, Mining Journal, Standard, Weekly News Budget (Buenos Ayres), Local Government Journal, Surrey Advertiser, Yeovil Chronicle, Coventry Herald, West Briton Advertiser, Sportsman, Western Guardian, Colchester Mercury, Times of India, Woburn Reporter, Lynn News, Mercury (Hackney), Building News, Chatham News, &c., &c.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

SATURDAY (18th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (13th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M. General Meeting for the Election of Officers and Council for next Session. 8.30 P.M. Ordinary Meeting. Dr. R. Cautley: On Acute Colitis in Children.—Dr. L. Guthrie: On Rheumatic Chorea, its Varieties and their Treatment.

TUESDAY (14th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Dr. S. Martin: On a Case of Intestinal Intoxication due to Appendicitis without Local Symptoms.—Mr. Rickman J. Godlee and Mr. T. R. H. Bucknall: A Pharyngeal Pouch of Large Size removed by Operation.

THURSDAY (16th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms Titchborne-street, Edgware-road, W.).—8.30 P.M. Clinical Cases.

FRIDAY (17th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper: Dr. Klein: What is Plague?

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (Victoria Hospital for Children, Chelsea).—5.30 P.M. Clinical Cases will be shown by Members of the Staff. Paper:—Dr. G. Carpenter: A Note on the Urine of a Newly-born Child.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (13th).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. S. Taylor: Surface Anatomy of the Chest.

TUESDAY (14th).—ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Dr. A. Macfadyen: Cellular Physiology, with Special Reference to the Enzymes and Ferments.

THURSDAY (16th).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. R. A. Saunders: The Modern Treatment of Obesity.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. S. Boyd: Surgical Cases. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. D. B. Lees: Demonstration of Selected Cases.

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